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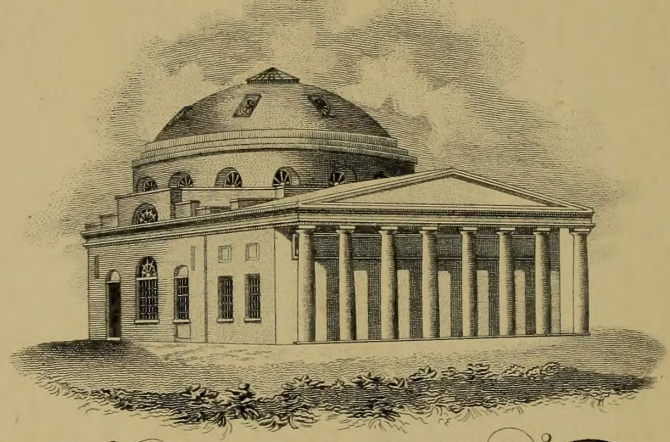

University of Maryland

University of Maryland Theses

Early Doctor of Medicine and Doctor of Physic Dissertations with Corrected Tables of Contents

These manuscripts described as either an Inaugural Dissertation or an Inaugural Essay were presented to the University of Maryland for the Degree of Doctor of Medicine and/or Doctor of Physic during the years 1813-1887. The individual dissertations were bound together during the 1940's. The original tables of contents for the bound volumes contained multiple errors in authors' names, titles, and/or years. To address these errors, an additional "Corrected Table of Contents" has been inserted at the beginning of each volume.

The project team who investigated and corrected the tables of contents were Richard J. Behles, Historical Librarian/Preservation Officer; María Milagros Pinkas, Metadata Management Librarian; Angela Cochrane and Carol Harling-Henry, Resources Division; Sarah Hovde, Abra Schnur and Megan Wolff, Services Division.

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UNIVERSITY OF MARYLAND

THESES

1864 (c)

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Smith, Nathaniel S.	Intermittent Fever	
Author Unknown	Title Unknown	(Incomplete)[1]
Carter, James M.	Gun-shot Wounds	
Price, James H.	Fractures	
Fawcett, Christopher	Typhoid Fever	
Mudd, Joseph A.	Malaria	
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Robertson, William W.	Diabetes	

[1] Tetanus? Thesis content limited to pages 17-36. Stained. "Date unknown" written over page 17.
[2] The "Fifty-Eight [sic] Annual Circular of the School of Medicine, Session 1865-66, and Catalog of Matriculates, Session 1864-65, With the Graduates of 1865," lists Gustavus C. Dohme as an 1865 graduate. (Collected Annual Catalogues of Students (1837/38 – 1879/80))

HSHSL 2012 for the UM Digital Archive. Sources consulted for corrections: Original Dissertation; University of Maryland Medical Faculty, Matriculation List, 1821-1851; Cordell, Eugene F. "University of Maryland, 1807-1907" (New York : The Lewis Publishing Company, 1907), Volume 2.

Author	Title	Notes
Dousife, Henry L.	Apoplexy	
Smith, T. Emory	Acute Peritonitis	
Rutter, Alexander	Gun Shot Wounds	
Dunlap, Albert	Typhoid Fever	

HSHSL 2012 for the UM Digital Archive. Sources consulted for corrections: Original Dissertation; University of Maryland Medical Faculty, Matriculation List, 1821-1851; Cordell, Eugene F. "University of Maryland, 1807-1907" (New York : The Lewis Publishing Company, 1907), Volume 2.

UNIVERSITY OF MARYLAND

THESES

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An
Inaugural Dissertation
on
Pregnancy
Submitted to the Examination
of the
Provost Regents
and
Faculty of Physic
of the
University of Maryland
For the Degree of
Doctor of Medicine by
Isaac Samuel Harper
of
Maryland
Anno Domini
1864.

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Pregnancy

I propose in the following pages to say a few words in regard to the manner in which the human race is propagated, First I propose to examine the contrast between the unimpregnated and the gravid uterus,

The texture of the unimpregnated uterus is close, tough, firm and inelastic, when gravid it is loose spongy and distensible, capable of being drawn out to a considerable extent without laceration of its substance, the unimpregnated uterus possesses no power but that of secreting and assisting in the function of conception, the gravid womb possesses the power of affording lodgement to the embryo nourishing and eventually

expelling it, The section of the unimpregnated uterus displays an unoccupied cavity communicating by an open mouth with the vagina below having therefore no contents, The gravid uterus contains the membrana decidua and the ovum, which latter consists of the Chorion, the Amnion, the Liquor Amnii, the Placenta, the funis-umbilicalis the Foetus and in an early stage of pregnancy the umbilical vesicle,

The first we have to consider is the membrana Decidua it is an opaque membrane lining the whole cavity of the internal surface of the uterus. It is divisible into two layers, is highly vascular and is supplied with blood from the uterine vessels,

as gestation advances the two layers come in close contact at every part, except where the placenta intervenes between them, for according to Dr Ramsbotham one layer passes between it and the uterus, the other traverses the foetal face of the organ, being interposed between its substance and the Chorion;, The decidus membrane is a product of the uterus and does not originate in the ovum it is furnished by the uterine vessels, and its secretion commences immediately upon impregnation taking place, at first it consists of a tenacious fluid, and by degrees assumes the character of a perfectly organized tender membrane, it is subservient both to the nutrition of the embryo and to the preservation

of its vitality; and it seems to perform for the new being functions analogous to those which in an after stage are carried on by the placenta itself.

When the ovum enters the uterus it becomes partially imbedded in the substance of the decidua and this receiving increased nutrition at the part with which the ovum comes in contact grows up around it untill it has completely enveloped the ovum, The surface of the ovum when thus surrounded by the deciduous membrane becomes shaggy by the growth of villous turfs from its surface which procede to form the elements of the placenta; The Chorion is a thin transparent

membrane very tough and is an external envelope or covering to the whole of the ovum, with the exception of the placenta which is interposed between it and the uterus, It passes on the foetal face of the placenta and gives a coat to that surface as well as to the funis umbilicalis, It is a constituent part of the ovum from the most early period of conception for it is found in extra-uterine pregnancy not in the uterus but enclosing the embryo itself, It in conjunction with the Amnion is a protection to the embryo, also forming the bag for containing the Liquor Amnii, and for a

soft wedge by which the structures during labor may be dilated with the least chance of injury.

The Amnion is a very thin transparent and tough membrane in structure very similar to the Chorion and runs in contact with it throughout its whole extent except at the Funis umbilicalis where they are seperated,

It is the analogue of the Chorion so far as a covering to the ovum is concerned, but in addition it performs a distinct function in the secretion of the Liquor Amnii,

The Amnion is by far the strongest of the two membranes, but these conjoint membranes do

not always possess the same degree of toughness for in labor they sometimes break on the first accession of pain at other times they remain entire and thus retard the progress of delivery, Dr Montgomery says in some instances they have not ruptured at all before the birth of the child but the ovum has been expelled whole even when it has arrived within a few weeks of its maturity" In some women the membranes break twenty four hours before labor actually begins, when such is the case the labor is generally tedious and severe,

The Liquor Amnii is the name of the water inclosed by the Amnion

in which the foetus floats the quantity of the fluid though positively increasing with the growth of the ovum throughout the whole of gestation appears to gradually diminish in proportion to the size of the foetus, for when the ovum is not larger than a small bean the Liquor Amnii is said to exceed an ounce, whereas at the end of gestation it will seldom amount to more than a pint, I think if the fluid increased in proportion to the growth of the foetus at the end of pregnancy it would measure more than a quart,

Its use appears to be to defend the embryo from the pressure

of the walls of the uterus and to protect the funis and placenta from compression during the latter months (which would impede the flow of blood through their vessels) also to allow free motion to the limbs of the foetus, Besides these advantages it performs a very important office during labor by acting as a soft wedge to dilate the cervix and os,

The Placenta is perhaps the most important of the foetal appendages being the medium of communication between the mother and her infant and the organ through whose means nourishment is supplied, growth

perfected and its life sustained,
It is an irregular circular mass
composed entirely of foetal vessels
and the ramifications of the
umbilical arteries and vein,
It is generally from six to nine
inches in diameter and about
one inch in thickness where
the umbilical vessels enter it gradually
becoming thiner towards its edge,
Its average weight is about a pound
but it sometimes varies considerably,
which I suppose is influenced by
the size of the child,
It has two faces one maternal
the other foetal,
It is covered on the maternal
face by the decidua vera and
on foetal by the decidua reflexa

by the Chorion and the Amnion;
Its purpose is to render the blood
fit for the continuance of life,
but not solely, for it is also the means
of conveying nourishment to the foetus
and of performing at the same time
two of the most important functions
that of giving action to the lungs
and stomach, It may be attached
to any part of the internal surface
of the uterus, but is usually found
on the posterior surface, sometimes
at the fundus, occasionally towards
the neck and more rarely still over
the mouth itself, in which latter
position it is apt to give rise to
much loss of blood when the orifice
opens in labor,
The Funis umbilicalis is a rope like

cord running from the navel of the child into the body of the placenta, it varies much in length, in some cases not exceeding six inches in others being four or five feet; Its average length is from eighteen to twenty four inches,

It gives a passage to three blood vessels, two umbilical arteries and one umbilical vein;

The arteries are longer than the vein as they generally continue their course in a more spiral direction arround it,

The arteries carry adulterated blood from the body of the foetus to the placenta and have a strong pulsation (and is called the Placental Souffle if detected when

auscultating for pregnancy and may be heard after the fourth month) the vein carries back again to the foetus pure blood imbued with the principles of both vitality and nourishment,

The <u>vesicula umbilicalis</u> also constitutes a part of the ovum in its early stage, it is a small sac not larger than a small pea, its appearance is first noticed during the early part of the second month, when the fluid it contains becomes thicker, then the vesicle begins to deminish in size and soon disappears altogether,

Its use has never been fully determined and it is to a certain degree still involved in mystery,

I will therefore leave it untill further discoveries enlighten us upon the subject.

The Foetus at the end of gestation usually measures from eighteen to twenty inches in length from the heel to the crown of the head and weighs from six to eight pounds generally, but there is sometimes a great differance especially in the latter which is not easily accounted for, some children at birth will weigh twelve pounds or even more while others will not weigh over five my youngest child (which is now a fine healthy boy) only weighed five and a half pounds the second day after birth,

The usual position of the foetus in

utero is head downwards towards the os uteri, though there are various other positions which it sometimes assumes for correctly speaking it has no certain position, but it is more frequently found in the situation above named.

The symptoms of pregnancy are first suppression of the catamenia though that is not always the case (for Dr Montgomery mentions several instances where the menses have continued untill the end of gestation,) morning sickness sometimes salivation but unlike mercurial ptyalism from which it is easily distinguished by the absence of soreness of the gums and the peculiar fetor which

follows it, enlarged mammae,
dark colour of the areola, quickning,
enlargement of the abdomen,
Kiesteine in the urine when allowed
to stand and has an odour something
like cheese, duskey colour of the
vagina which generally makes
its appearance from the second
to the fifth month, it is
considered by some writers to
be an almost infallable sign,
it is most distinct on the inside
of the nymphae and about
the orifice of the uretha and
clitoris and it becomes more
apparent as we ascend towards
the upper end of the vagina,
the great objection to this sign
is its inaccesibility in a great

number of cases.

The pulsation of the foetal heart is the most certain of all other signs and is generally audible at the termination of the fifth month. the sound resembles the ticking of a watch heard through a pillow. The frequency of the pulsations is from a 120 to 140 per minute,

The Placental souffle is the next sign of importance and may be heard after the fourth month.

Having now described all the different parts of the ovum and given the most important signs of pregnancy I will now proceede to describe the progress of gestation more at length,

During the first month of

pregnancy the changes are not very appreciable, the uterus is somewhat larger the os and cervix are soft, the uterus descends a little lower towards the outlet of the pelvis, which often causes pressure on the nerves sometimes producing cramps Sickness and vomiting, sometimes ptyalism, suppression of the catamenia tenderness of the mammae &c, During the second month the abdomen becomes somewhat flatened the cervix is increased in size and is directed towards the symphysis pubis, the canal of the cervix is closed with a kind of gleatinous plug, the os can be felt lower than usual, but as yet there is

not much visible sign.
At the third month there is a continuance of the nausea and vomiting, depression of the umbilicus slight prominence of the abdomen the os uteri has slightly changed its position, the areola begins to turn brown which turns to a deeper hue as gestation advances untill at the close of pregnancy it is in some persons almost black, Kiesteine in the urine, increased prominence of the nipple.

During the fourth month the uterus begins to rise from the pelvis into the abdomen and at the termination of this month the fundus may be felt two or three inches above

the symphysis pubis, The dusky colour of the vagina is generally very easily distinguished at this time about the clitoris, The os uteri is elevated considerably above its former position and its mouth is still closed in primiparae, but in multiparae is sufficiently open to admit half the first phalanx of the index finger.

At the fifth month suppression of the menses, increased prominence of the umbilical region, usually cessation of the nausea and vomiting now take place, though in some cases it continues throughout pregnancy, The uterus has now left the cavity of the pelvis entirely and has

ascended into the abdomen, its fundus leans backwards towards the sacrum, The os is now more soft and elastic and will admit of the further introduction of the finger, Generally within the circle of the orifice are a number of little mucipurous glandulae — projecting slightly and feeling like small smooth vesicles which appear to roll under the point of the finger, according to Dr Montgomery the presence of these glandulae is a very decisive mark of pregnancy.

During the sixth month the fundus uteri is now within an inch of the umbilicus, upon asculation the Bruit de souffle

and the pulsations of the foetal heart may be distinguished, the latter is most distinctly heard about half way between the umbilicus and the symphysis pubis a little to the left, I have heard the sound several times and it is quite easy to distinguish when once heard, as I said before (when giving the symptoms of pregnancy) it resembles very much the ticking of a watch heard through a pillow, The movements of the foetus may now be very easily felt by placing the hand on the abdomen, Ballottment can now be practised and when performed the patient should either be in the upright position

or in the semirecumbent posture.

The colour of the areola is now a deeper brown, the mammae is very much increased in size and in some persons become quite painfull.

The seventh month, the urine now becomes redder and more turbid, Kiesteine is more easily distinguished and if the urine be exposed for a few days in a glass the Kiesteine will form first in specks which will gradually unite into a scum a portion of which sinks to the bottom, I have tried this experiment and find that the portion which sinks to the bottom becomes converted into a solid substance.

The mammae are now very much swolen and milk may be pressed from them, The abdominal tumor is much increased in size, the umbilicus becomes pouting, the cervix is only half the original length, the fundus can be felt a little above the umbilicus, The movements of the child may be detected — through the abdominal walls, The discoloration of the areolæ is increased,

During the eighth month the cervix as a general rule is not more than a quarter of an long, the fundus has risen about two and a half inches above the umbilicus, the os is so

high it can scarcely be reached,
Ballottment felt before now becomes
obscure on account of the increase
of the size of the foetus whose
movements are more active,
The foetal pulsations still continue.
In primiparae the os uteri is
still closed, but in multiparae
it is open enough to admit the
whole of the first phalangeal bone;
During the the first half
of the ninth month the vomiting
sometimes reappears from pressure
of the uterus against the stomach,
The abdominal tumor has increased
so much that the skin is much
stretched and very tense, sometimes
difficulty of respiration, The fundus
uteri has gained the epigastric

region Ballottment has entirely disappeared, The os in multiparae is sufficiently open to allow of the introduction of a phalanx and a half of the first finger, in primiparae it is slightly opened but not enough to admit the finger, The areola has now turned to a deep chestnut colour and in some cases almost black, sometimes the milk is seen oozing from the nipple,

During the latter half of the ninth month the vomiting ceases the abdomen has fallen the fundus uteri has sunk lower down in the abdomen there is frequent but ineffectual desires to urinate, there is

considerable difficulty in walking, sometimes varicose state of the veins of the lower extremities, pains in the loins and cholics, the respiration less oppressed during the last week in consequence of the spreading out at the internal orifice, the whole cavity of the neck becomes confounded with that of the body, and the finger in reaching the membranes only traverses a thin orifice in primiparae while in multiparae the external orifice of the cervix is thick rounded and unequal,

During pregnancy all excitement should be avoided the exercise should be moderate and of a kind calculated to invigorate

the general health, the diet
should be simple and unirritating
and both diarrhoea and costiveness
should be avoided or relieved,
Castor oil or pills of rhubarb and
soup form the best aperients,
sickness of the stomach may
often be relieved by lime
water and milk,
Now Gentlemen I have done
I do most sincerely thank you
for your kindness and attention
to me for the past ~~two~~ years
and I do assure you I shall often
look back with pleasure to
the many pleasant hours I
have spent in the medical
department of the university
of Maryland, I hope that you

may each live in the enjoyment
of good health for many years
and that every winter the number
of students may increase,
And in conclusion I wish
you all the happiness and
prosperity this world can
afford and eternal happiness
in the world to come.

Isaac Samuel Harper,

An Inaugural Dissertation on Intermittent Fever

Submitted to the examination of the Provost Regents & Faculty of Physic of the University of Maryland for the Degree of Doctor of Medicine,

by

Nathaniel S. Smith
of Accomac County Virginia

Dec.r 23.rd 1863

Gentlemen

In accordance with a long established rule of the University of Maryland that each candidate for Graduation shall produce a Thesis for your honorable consideration, I offer the following Imperfect and unconnected remarks on Intermittent fever, should our learned Faculty detect any errors in the following pages, I hope they will be excused.

Respectfully submitted by
Nath. S. Smith

Dec 23rd 1863

Accomac Co Va

Quotidian Fever

This is a disease known to us by its febrile paroxysms occurring at stated intervals and the absence of fever. The Intervening period from the end of one paroxysm to the commencement of the next is called the Intermission, there are three kinds of the fever Quotidian, Tertian, quartan. By the term type we mean the order in which the paroxysms return In the quartan the chill returns every day about the same hour the Tertian every second day & the quartan every third day. Besides these we have other types but as they are of rare occurrence

I will pass on to the double va=
riety which we not unfrequently
meet with in practice; Viz Double
quartedian is where there are
two chills in the same day
double tertian with a chill ev=
ery day, that is on the first and
third, the double tertian is the
only one that often occurs.
Some authors assert that there
is no such thing as double tertian.
The paroxysm of an Intermittent
consists of three distinct stages—
the cold hot, and sweating —
At the commencement of the Cold
stage, the patient feels a sense of
languor & weakness yawns stret-

ches, his face is generally pale
his features are shrunken,
The feeling of Cold is first ex-
perienced about the shins as
if water were trickling down
his back, the sensation soon
extends over the whole body,
"rigors, and chattering of the teeth,
there is generally excessive shak-
of the whole body, vomiting
nausea and often headache,
with spinal pains. very often
there is what is termed "dumb
ague of which I have been
often affected, the fever coming
on without any marked
dearee of ague only a sense of

signs chillings, It is not uncommon to see Intermittents without any rigor or cold stage.

When the cold stage has lasted for some time, flushes of heat come on uneasiness of the stomach, Increased sometimes so much as to cause vomiting, and finally the sensation of heat predominates, and the second stage supervenes with red and watery eyes, restlessness, and thirst, The pulse which was first feeble now becomes full and bounding, The duration of this hot stage vary according to circumstances, finally a profuse perspiration is

thrown out over the body, when the sweat flows freely the symptoms subside, and the patient is soon entirely relieved. Intermittents are noted for their strong tendency to recur, often fix themselves on constitutions for a long period, resisting every effort to expel them, the quartan is most remarkable for this obstinacy. I have known it to last for two or three years, and instances are recorded of its duration extending to twenty years or more. It is probable that agues such as are seen in this country, would generally terminate favor=

able provided that the patient could be put beyond the further operation of Malaria, protected from wet and cold and well nourished. But possessing as we do a specific spontaneous cure for ague, there would be no sense in our allowing the experiment of a spontaneous recovery to be made or rather we would be inexcusable, knowing that the complaint is more obstinate the longer it has lasted, & tends to the establishment of other diseases, we would be without excuse if we did not stop it as quickly as we can. The consequences of Intermittents vary with their [illegible]

lence & duration. In some localities, as on the coast of Africa, a malignant modification of this type of fever is met with, which often proves promptly fatal by the congestive determination which affects the vital organs, Examples of this sort are met with in temperate climates but rarely. Prognosis the general prognosis in Intermittent fevers is favorable, with some allowance for their tendency in all seasons & climates to obstinate protraction, and in hot and moist climates to malignant violence, violence of determination to important organs, in the hot stage as to the head and stomach, are

unfavorable signs. But in cold countries, such as ours, it is almost always favorable. It will be modified by the previous condition of patient. When it attacks very old or infirm persons the supervention of the ague may destroy him, or where there is any organic visceral disease. But to persons of good health before the setting in of the disease, we may confidently promise a cure. In all countries quartans are cured with more difficulty than either tertians or quotidians. There needs very little preparation of the patient, before administering the substance which is to cure him & which is familiar with most persons known as Peruvian bark;

or its active principle as presented by the salts of Quinia, The old practice was to wait a few returns of the paroxysms, until the supposed matter had been expelled by vomiting or purging, There is a very simple preparation which the most of Physicians use in Virginia and I have used it frequently with good success. The prescriptions generally is four or five grains of Calomel with eight or ten grains of Rhubarb or Jalap at bed time, and commence with the quinine the next morning, the patients are cautioned to not expose themselves to wet or cold and wear flannel shirts.

treatment. The object of treatment during the paroxysm, are to allay the unease sensations of the patient and shorten the fit, and to avoid the danger which sometimes may arise from intense internal congestions. To alleviate the cold stage, to diminish the vascular excitement during the hot stage, and to induce its prompt resolution by sweating, are the objects of the practitioner. From time immemorial it has been supposed that the history of the paroxysm and its results would bear a direct relation to the intensity and duration of the fever. Hence the anxiety to push

and put to it at once, before
it had brought on the internal
determinations, congestions and de-
bility, to attack these purposes, it
is usual to begin at its earliest
commencement, with the applica-
tion of stimulants, both externally
and internally, the patient should
be wrapped in blankets; bottles of
hot water, hot bricks are put to
the extremities & warm cordials
are given to the Constitution,
warm drink should be allowed
as freely as the stomach will
bear, sometimes they might be
beneficially mixed with stimulants,
He should then receive the warmth

of the surface, relieving the heart and head from that oppression under which they always labor. Opium is highly recommended by some authors, as being an expectorant remedy, during the Cold stage of an Intermittent, It is most generally combined with Camphor; - it always produces a pleasant sleep, without hostile symptoms of any kind, it will sometimes bring on a mild hot stage. The domestic custom of administering an Emetic before the expected paroxysm, may prove eminently adapted to some cases.

connected with great depravation of the secretions, which are generally shown by a foul tongue, bad breath, oppression of the stomach &c. Ipecac is highly esteemed by some, if it is not sufficiently active it may be combined with some other Emetic. When the hot stage appears a different plan is then resorted to, the head is kept cool by cold applications, the thirst relieved by refrigerant drinks, Ice may taken if there is any Irritation. In cases of more violence we may be called on to interfere more actively, such as undue de=

terminations to the nose or chest the pulse hard and full, then there may be advantage in blood-letting, this generally found in robust subjects. But it must be resorted to cautiously, if at all, a cathartic sometimes is very good some active one. If there be any disturbance of the stomach a mustard plaster may be found good. Cold effusions to the head may be resorted with success at this period, or cold bath. It revives the burning heat of the surface, calms the disturbed stomach, and quiets the throbbing head. This is not adapted to old inform

people and should be avoided & likely to do harm wheare there is pulmonary affection or Diarrhea existing. Opium has been recommended in the hot stage of Intermittents, the best forula is Dovers powder in combination with two grains of Calomel or Rheubard to prevent constipation, if there be any tendency to Inflamation especially to the head this must be avoided. The next to consider is the treatment during the Intermission, a great many varieties are laid down in the books as preventitives of Intermittents; but there is one far preferable to any that has ever been

discovered, that is Cinchona or Peruvian bark, For many generations back, the reliance of the profession has been chiefly placed upon the administration of this medicine, in some mode or formula, The discovery of Cinchona is one of the best laid down in the Materia medica for the cure of Intermittents; the use of the bark in some cases is absolutely prohibited, and limited by a variety of conditions, Cinchona is objectionable owing to the large quantity that has to be given to produce the desired effect. If there is any engorgement of the Spleen or Liver a slow and gentle Mercurial

course will be useless, after these obstacles just mentioned are removed, and a perfect apyrexia obtained, we may expect the full benefits of cinchona, since the discovery of an active principal of Cinchona, (quinine) and its extraction, which may be safely pronounced to be the greatest improvement in modern pharmacy, the Sulphate is generally used, owing to its smallness of bulk, certainty, and uniformity of dose, & freedom from offensive quality, except more bitterness, Sulphate of quinine may be given in solution or pill with a few drops of sulphuric acid two to four grains is generally given

one three or four hours until from
ten to twenty grains may be taken
during the intermission. Under some
circumstances it may be necessary
to administer the whole dose, either
immediately before or after the parox-
ysm, for instance when the inter-
mission is short as in the quotidian.
It is best however to introduce it
into the system gradually, the
remedy should be continued some
days after the attack, owing to
its tendency to return. If quinine
should be rejected by an irritable
stomach, it might be exhibited in
the system in combination with
laudanum, sometimes it is advised

endermically to the epigastrium, the
infusion of Cinchona is still
prescribed, now and then in combi-
nation with Camphor and Ser-
pentaria it is said to be very
grateful to patients, and found to
be a diaphoretic, if genuine should
not be at hand, or a very high price,
as it is in some parts of our Country,
there is offered many substitutes.
Of which willow bark, Nitric acid,
Chloride of Sodium, among the whole
no domestic remedy enjoys a higher
reputation than tincture of Sage, many ca-
ses in our low countries have been
promptly cured with it, Sulphur
is also a well known remedy

for Intermittent fever, especially when the bark is contraindicated, Notwithstanding the employment of many valuable and efficient remedies, the patient will still sometimes continue to suffer, if not as regular as at first, yet at distant Intervals, from the recurrence of paroxysm of his obstinate tormentor, When this has come, nothing will remove the disease short of an alteration of the patients habits, He must change his place of abode for sometime, Let the patient take a journey from home, or visit some country distant by sea voyage or some place near the Ocean,

Respectfully
Nathaniel A. Smith

seems to think, that it is pressure on [illegible]

[illegible], or the [illegible]

[illegible] by the [illegible] bones.

Dr. [illegible], [illegible]

[illegible], from the [illegible] of the [illegible]

[illegible]

[illegible]

[illegible] fitted the [illegible]

[illegible]

[illegible]

[illegible] will admit, that the [illegible]

[illegible]

in the one instance, or the diseased con-

dition of the cord in the other, might

[illegible] the disease.

The disease as marked, in the

[illegible] different [illegible]

Date unknown

the adult; it may come on fifte[illegible] after birth, or more generally it [illegible] not occur until several days after it is born. the first thing that is noticed is that the child cannot open its mouth; when attempting to take the mothers breast; the jaws are slightly open, the corners of the childs mouth drawn downward and backward, giving to the child, a peculiar expression, as stated, by Dr. C. West, to be symptomatic of the disease.

Paroxysms, [illegible] generally set in, the child is convulsed; with its little ends clenched, and thumbs drawn in the hands; while its feet are flexed on the ankles; the body being bent backwards.

These convulsions, continue without remission; until at last the little sufferer is exhausted, and dies during one of them; or sinks into a comatose condition, and expires. Recovery is very rare in this disease, as it attacks children.

<u>Causes.</u> As already stated, the disease, as we have it, in this country, nearly always is in the traumatic variety; so that the cause is nearly always considered, to be the wound, or blow, that existed prior to the tetanic spasms; though with this, I would think a peculiar predisposition must exist, as many wounds, worse than those that produce the disease, are of daily occurrence, and no serious consequences follow them.

It is supposed, that a low and diseased state of the system, is more apt to produce the disease, than in the robust, though it is noticed, that those affected with the traumatic variety, are often of the most robust character, males are more subject to it than females, but this is on account of their being more exposed, to the exciting causes than the weaker sex.

Whether the wound is trifling or severe in its character, is of no consequence; sometimes the smallest wound will produce the tetanic spasms; as for instance a pin's scratch, has been known to produce the severest form of the disease;

A great amount of argument, has been used, to show that a peculiar con-

-dition of the wound, must exist; for in-
-stance, it is said, by some, that no inflam-
-mation must be present in the wound;
others again, that a peculiar [illegible]
from the wound, as an ichorous discharge,
will produce it. I think neither of these
hypothesis, have any bearing in fixing
the cause of the disease; a certain part
wounded; seems more liable to produce
it, than any other, as for instance the
wounding of the palmer muscles of the
thumb, is very apt to excite the disease,
when in a person of the peculiar pre-
disposition; what this predisposition is,
or in what it consists, is I suppose, like
all or many of the nervous phenomena,
not easy of explanation. I have no

advancements of physiological research, which are now or just coming to light to our views, may illuminate our minds with a better understanding of the deep, dark, and impenetrating phenomena of the nervous system.
Until then we search in vain, hand in hand, step by step, must these two studies proceed, and if favoured with but half the success, that has been given them within the last century; we will think almost masters of nervous phenomena.

But to proceed, this peculiar predisposition must exist, that the tetanic spasms, may present themselves in their particular way; characteristic

of the disease.

Among other causes, may be considered the temperature of climate; being as already stated, more prevalent in the hot, than the temperate climates; and more among the low, poor, and uncleanly, population, as for instance the negro of the South, in the "primus diasenlimus", and the ill fed and poorly clad, of the European cities.

As has already been stated, this variety of the disease "idiopathic", seldom if ever is found in this country; or any other temperate climate.

Exposure to cold, damp night air, during warm weather, is given as one of the causes producing the disease; certain

poisons, as hydrocyanic acid, may produce the tetanic spasms, which bear the closest resemblance to the disease. It has in fact been known to occur from cutting a corn; the stroke of a whip lash, from the operation of cupping.

Of the wounds producing the traumatic; those produced by puncture are more serious, than other injuries as penetrating wounds of the foot by a nail, which often occurs, and is more likely to be followed by the tetanic spasms; owing probably to the wound being in a part composed mostly of tendons and sheaths.

The tetanic spasms do not occur at a distinct period, after the wound; sometimes it has occured almost immediately;

it most usually appears between the third and fifteenth day, or about the second week, is the most common time. It is said that the longer the tetanic symptoms are delayed, in making their appearance, the milder will be the disease.

The idiopathic usually comes on sooner than the traumatic, but is longer running its course.

Pathology

The greatest obscurity exists, as regards the pathology of this disease, but I think it is no more so, than in many other nervous diseases. Some authors state, that no anatomical lesions are ever found; while others again, always find

inflammation, at this autopsic examination; this assertion has been the cause of the greatest amount of harm to the patient; as it is well known, but a few years ago, when "the exalted vitality existed" as was understood by inflammation; the great panacea, blood letting, was of course instituted, and a fearful amount of the vital stimuli; the life of man, ~~was removed~~; was removed; followed as might well be supposed, by a great mortality. In children an effusion of blood around the theca of the cord, with congestion of its vessels, and its membranes, has been found in every instance by a German writer, "Dr. Weber of Kiel". it was thought that

this was on account of the position, that the child occupied, resting on its back, but this gentleman placed numerous patients on their faces; before they died, and in other positions, and found the morbid condition in every instance. "Dr West, agrees with him on this point, and says "I very frequently found great fullness of the vessels of the cord, and a gelatinous matter, which was frequently tinged with blood, effused around its theca". Deposits of curdy matter have been found floating in the arachnoid membrane, but this not being always present is not pathognomonic of the disease. The nerves leading from the wounded part are found inflamed

and always congested. "Dr Erichsen in his work on Surgery says "this morbid condition, I have never found wanting." A degree of congestion of the brain has often been found, but this is often noticed in other diseases, and in fact might not be cadaveric. As already stated, our pathology cannot be supposed to advance or increase, while we remain so ignorant, of the physiological phenomena of the nervous system.

Diagnosis

This disease when well marked, is not likely to be confounded with many other diseases, though there are some, that simulate its symptoms; Some

Poisons in their effects, might be mistaken for true tetanus; and one particular that is very much like it, I have reference to poisoning by strychnine. It would be well that a distinct line should be drawn between these. We well know that this poison is used for suicidal purposes, frequently, of late years, therefore a thorough knowledge of the different symptoms, as they show themselves, in the disease and in poisoning, should be attained.

The spasms from strychnine do not supervene upon exposure to cold, or climatic influences, but follow shortly after the drug has been taken; they come on suddenly, and with great violence

affecting with greatest intensity, the muscles of the trunk and spine, the opisthotonis coming on very soon after the spasms, which does not occur in tetanus. So speedily. the stiffness of the jaws that comes on so soon in tetanus, is not perceived at first in poisoning by strychnine.

Dr Todd, has described the symptoms so accurately, in a few words, that I beg leave to introduce them here;

"As regards the tetanoid state from strychnine, — The rapid super-vention of tetanoid convulsions affecting chiefly, and with most intensity, the muscles of the trunk and spine, causing an active and violent opisthotonis rarely met with in tetanus. A rigid

and flaccid state of the muscles of the lower extremities, with somewhat less insensibility than those of the trunk; the limbs extended and the feet drawn powerfully inward by the action of the tibialis postici muscles. the upper extremities affected also, but in a less degree, and the hands semiflexed. The trismus existing only imperfectly, facies tetanica very slightly or not at all; swallowing perfect, but the mode of deglutition peculiar, the patient snapping at the liquid offered, and gulping it down with an effort, in a manner very similar to that in which hydrophobia patients swallow. The attacks of opisthotonus frequent seemingly exquisitely painful, and inflicted

in by a cry more or less loud.

"As regards tetanus, the symptoms coming on gradually, and the trismus the earliest, the most prominent, and the most important one, the facies tetanica a very characteristic symptom. The attacks of opisthotonus less frequent, less extensive, and less severe, than in poisoning by strychnine, the extremities the last part affected, and suffering much less from the tonic spasms than other parts.

Deglutition slow and difficult, and sometimes impossible, owing to the spasmodic closure of the mouth."

From hysterical convulsions, or tetanus as it has been called, we would

distinguish the disease, not only by the age and sex of the patient, but by the absence of pain, and the intermission of the muscular rigidity; also by the spasms being of the clonic character and from tetanus in fact, by the treatment that might be threatened, as for instance; the pouring of cold water on the patient, threatening the application of the actual cautery, or better still, the exhibition of it, in case where we labour in doubt as to its true character; for if true tetanus, and we should apply it, we would do no more than has often been done, and recommended by writers; if hysterical and is proven by it, we can only feel too glad that we found

so active a remedy.

With hydrophobia it seems to be more closely associated, by its symptoms; so many that are almost allied to those we have in tetanus; yet a difference exists, and this difference, well marked, I think, if properly drawn. Deglutition in tetanus is difficult, in the other impossible; for swallowing or attempts thereat exciting the most distressing disphagia; the frothing at the mouth, the vomiting, the very great sensibility of the surface, liquids if offered to, or heard by the patient, causing paroxysms; also the clonic spasms, the choking sensation about the throat, the fierce manner and maniacal paroxysms; these all show a marked difference of the two

diseases.

Prognosis

The prognosis is exceedingly unfavourable, in nearly every work on the subject the writer looks upon it as a disease almost incurable; unless the powers of the patient, are enabled to withstand its terrible course,

I think the prognosis has been considered more unfavourable than it really is, for books, and the experience of some, show us many cures; though I do not desire to consider it of favourable prognosis; for we may well suppose, that many of the fatal cases are never reported; neither do I think we should despair, for enough recoveries have taken place to give us inspired hope, to expect a

An
Inaugural Dissertation
On
Gun-shot Wounds
Submitted to
The Provost, Regents, and Faculty
of The
University of Maryland
For the Degree
of
Doctor in Medicine
By
James M. Carter
of Maryland

Balto. February 14th
1864.

Gun-shot Wounds.

Gun-shot Wounds are lesions inflicted by fire arms of any description whatever. The range of severity of these injuries is considerable extending from a simple flesh wound to the complete destruction of one or more limbs, or their entire separation from the body. When a ball has passed entirely through a part we observe two orifices, that of entrance, which is

smooth, round, and with inverted edges and more or less simple reddening of the parts around, that of exit, in which the hole is much larger, the edges everted, and the surrounding soft parts blackened, bruised, or pulpified. When a ball passes swiftly through a part little or no pain is felt at the time, on account of the instantaneous suspension of nervous sensibility. Portions of clothing, fragments of bone, pieces of money, etc. may be carried into a wound by a ball. Gun-shot wounds are commonly attended by more or less haemorrhage and constitutional disturbance. In the case of the bleeding, if a large artery be wounded, the blood escapes in considerable quantity, and per-saltum, notwithstanding any pressure which may

be brought to bear upon it. With regard to the constitutional disturbance, it may be stated that, in general, it depends upon the importance of the part wounded, the extent of damage inflicted, and the habitual strength of nerve of the injured person. If the lesion be a very severe one the patient suffers from vomiting and faintness and has an alarmed expression of countenance, together with anxiety of mind and confusion of ideas. Besides these phenomena, his limbs tremble to so great a degree, that he can neither stand nor walk without support, and the general surface is bathed in sweat.

The most curious and, at the same time, the most interesting circumstance connected with the subject of gun-shot

wounds is the course which the balls take and the facility with which they may be diverted from their track by the slightest obstacle. Thus a sharp process of bone may cause a ball to split, one piece falling out, and the other probably being driven in, causing serious mischief. Hennen relates a case of this sort, in which the patient died ten days after being shot, from haemorrhage from the sinus of the left internal jugular vein, where one piece of a split ball had lodged and caused ulceration. Likewise any slight obliquity of surface, or modification of density in the wounded parts may cause considerable divergence of the ball. For example a ball may strike one side of either of the three

great cavities of the body, and emerge at a point exactly opposite, of course leading to the conclusion at first thought, that the missile has passed directly through. But not to conclude too quickly, let a careful examination be made. If the ball has passed through, there will be certain manifestations, which are pretty nearly unmistakeable; as in the case of the chest emphysema and hoemoptysis; together with great dyspnoea and anxiety. Flying fluttering pulse, cold extremities, &c. In the case of the stomach, vomiting of blood, pain and other general symptoms. If any of these appearances be absent we conclude generally, where there are two openings, that the ball has passed round under the skin. In this case the track of the ball, will be made manifest by, a

dusky red line, or wheal on the skin, or by a peculiar empty sensation or crackling. It may be stated lastly in this connexion that half a dozen orifices may be made by the same bullet.

Spent balls. Very serious and often fatal injury is occasionally inflicted by what are denominated spent bullets. In this case, the missile has parted with a considerable amount of its original velocity, and strikes the part obliquely, or rolls over the surface. The integument may be intact, or but slightly bruised, while the deeper seated tissues are completely destroyed. The injured person is severely stunned, and there is loss of motion and sensation in the part, and for some distance around it. A feeble inflammatory action is set up

which is soon followed by amaurosis.

Lodgement of Balls. This is of course a matter of much interest to the patient and his friends, although the lodgement may not be productive of serious consequences, especially if the ball be lodged in the soft parts, and there is no pressure upon vessels or nerves. Some knowledge may be obtained on this point by considering in the case of two openings, whether they were produced by the entrance and exit of one ball, or the entrance of two. It is also important to ascertain as nearly as may be, the positions respectively of the wounded person and of the party inflicting the injury.

Again the same orifice of entrance may be produced by two bullets

One of them passing out, and the other deviating from its track and doing serious internal mischief. The velocity which the ball possessed at the moment of striking the body, has considerable influence upon its lodgement.

Progress and Results In from twelve to twenty-four hours after the reception of the injury, inflammatory action is set up. The neighboring tissues are swollen, stiff and painful, and the wound itself exudes a small quantity of reddish serum. About the fourth or sixth day suppuration is established, but is limited by the effusion of lymph around the wound. About the seventh day, the tissues which have been destroyed by the severity of the contusion, begin to separate, and the slough

is cast about the fifteenth day. This is a moderate and ordinary inflammation, the tendency of which is to recovery. On the contrary the local and general symptoms will be much aggravated, if the patient has been exposed to great vicissitudes of temperature, or has been guilty of excesses of any sort, before or after the injury. The suppuration is greatly diffused, the cure protracted, and the result a limb disabled by muscular contraction and adhesion.

Mortification as a result of gun-shot injuries commonly takes place under three conditions: 1st from immediate destruction of the injured parts: 2d from excessive inflammatory action — and 3d from division of

large arterial or venous trunks.

The third variety of mortification is indicated by its commencing in the extremity of the limb, and by presenting the two varities of dry and humid gangrene. This form of mortification is of rapid progress, and is generally fatal in its consequences.

Secondary Hæmorrhage, as a consequence of gun-shot wounds, may occur in four ways 1st from excessive arterial action, resulting in the displacement of coagula. This accident when it does occur, usually takes place in the first five days. 2dly By the separation of a slough from a large artery. This may happen any time from the fifth, till the twenty-fifth day, but it is rare.

3dly By progressive destruction, or ulceration of arterial coats. This also is rare, inasmuch as the coats of arteries resist ulceration for a long time. 4thly The most common variety is ushered in by pain, heat, and throbbing of the wound, and of the surrounding parts. It is almost certain to follow any excitement of the circulatory system. Excesses of any kind whatever, are improper and dangerous. The Haemorrhage consists in general exudation from a granulating surface.

II Treatment of Gun-Shot Wounds. In simple cases not much treatment is required, it being necessary merely to sponge the wound clean, and after the cessation of

ordinary bleeding, to apply a light pledget of lint, secured by a strip of plaster. after three or four days, when these primary dressings have become hard and stiff, they must be removed, after being first well sponged with warm water, to facilitate their removal. Then light water dressings may be used until the suppurative stage has been established, at which time the cloths should be wetted with warm water. Poultices are improper, dirty, and troublesome. If the tissues surrounding the wound become very tense and painful, or if pus has formed and is likely to burrow, the wound may be freely dilated. In all cases, though it may be clearly

shown that the ball has passed out yet there may be clothing or other foreign matters remaining, and an examination should be made accordingly. More especially, if there be but one opening. If the ball or other foreign body is within easy reach, it may be removed by forceps. first dilating the wound if its calibre on account of tumefaction &c. will not allow the free ex-it of the substance. If the body can be detected just under the skin, an incision may be made for its removal. But should the substance be difficult of access. and its lodgement is not likely to be followed by serious consequences. better let it remain

as a failure in the effort at extraction, would undoubtedly have a worse effect on the patients mind than the lodgement of the foreign body would have upon his physical system.
When balls lodge in the substance of bones they should be removed otherwise they will cause caries or necrosis.

With regard to the treatment of secondary haemorrhage the first three varieties named require ligatures. The fourth, is to be managed, by perfect rest, rigidly low diet, cold applications and pressure. Particularly troublesome spots must be cauterized with Arg. Nitratis. The general management will of course be regulated by the temperament of the patient.
Finally, in the treatment of Gun-

Gunshot Wounds

Shot wounds it may be necessary to resort to amputation in order to save the life of the patient. When amputation is proper, is a most grave, and important question to decide. Amputation is a great eyesore and source of unhappiness to the patient and his friends. However, the operation may be indispensably necessary to preserve life. and if so, some points are to be considered. 1st would the attempt to preserve the limb endanger life. 2nd Will the limb be of any use, if it is saved. 3d The patients habits are to be considered. 4th The presence of previous organic or functional disease 5th The accommodations at the disposal of the patient.

The operation if finally adjudged to be necessary. should by primary. that is. performed within the first forty-eight hours after the reception of the injury. as patients will bear amputation better after full reaction has been established, than after having been submitted to the trying ordeal of five or six weeks in an hospital. another important point before operating. is to ascertain the whole amount of injury =

Rules for amputation 1st When a limb has been completely shot off. the stump is to be amputated. 2d. Amputation is demanded in fracture of the femur, with division. partial or complete of the femoral artery. vein or sciatic nerve.

3d. Injuries of the knee or ankle joints, or an extensive fracture of the tibia with division of arteries, but not mere laceration of the calf of the leg. 4th The arm should not be amputated unless great damage has been done to the wrist joint, or to the Humerus, with division of vessels and nerves. such injuries generally demand amputation.

In conclusion gentlemen of the Faculty allow me to express my sincere thanks for your kind and assiduous attention to me, while yet a medical novitiate, and to hope that your labours may be abundantly blessed to future candidates for the honors of our Alma Mater.

An Inaugural Dissertation On Fractures

Submitted to the Examination of the Provost, Regents and Faculty of Physic of the University of Maryland for the Degree of Doctor of Medicine

By

James H. Price

Anno Domini

1864

Fracture is a Solution of continuity in a Bone. Bones exercise their functions by their physical properties not from vital properties they derive their Strength from earthy and animal matter, and their elasticity from gelatin. Bones become easily broken in Cancer, Old-age and scrofula. Green-Stick fracture is when a bone is partly broken these occur to Young persons, fracture in an old person is entire. Long-Bones are more apt to fracture than Short, fractures are from direct or indirect violence as a lever flying out and Striking one of the extremities which will cause fracture at the point Struck. indirect when a force is brought to bear upon both extremities of a bone when it will fracture remote from either extremity as coming down with great force

upon the foot is apt to fracture one or more of the bones of the leg, thus, or falling upon the Shoulder and fracturing the Clavicle, bone may be broken by Muscular Contraction as the Sternum by the contraction of the Recti Muscles, the patella by the violent contraction of the Quadriceps Muscle or by considerable Muscular effort in Strumous Subjects

Fractures are Simple, Comminuted Compound and Complicated, Simple is when the bone is broken without injury to surrounding parts, Comminuted is when the bone is fractured and splintered Compound, is as railroad Car when passing over limbs, fracturing and lacerating parts, it may become Comminuted by Closure and Care of Wound Complicated, is fracture with dislocation

and laceration of Muscles, Nerves, Vessels
&c this occurs in many ways we have
effusion of blood and more or less inflamma-
tion. Simple fracture may be obliquer
longitudinal if oblique one part of bone
is apt to slip over the other, longitudi-
nal is when it extends some distance up
a bone and then slabs off, In fracture
the periosteum is stripped off to some
extent & floating in the extravasated
blood the first few days after fracture
is a period of repose little or no change
taking place except the effusion of a
small quantity of lymph & Serum and
the absorption of extravasated blood
the blood is absorbed leaving the fibrine
which forms the provisional tumor
Callus is formed around which is
the external Callus ring & then there is a

bone formed in the Centre of each part which is the Central fir of Old Surgeons when direct Continuity is restored the tumor is absorbed; in persons of strumous diathesis or general bad health of patient may exercise part or necrosis may take place & the formation of provisional tumor will be frustrated in these cases we have a false joint which occurs most often in the Humerus which shows the Cause is principally from insufficient Support. Symptoms and Signs of fracture, the limb is very often lengthened almost invariably Shortened deformity is not so obvious when near a joint, Every fracture has its Characteristic deformity if thigh bone the limb will be Contracted and the toe turned out another Sign is Crepitus which is quite percept

-ible in single bones as the Humerus & Femur Crepitation is not so manifest near a joint we have Muscular Crepita-tion in Rheumatic affections, also Crepit-tion of joints when the Synovial Memb-rane has become dry and we at times have no Crepitation, effusion of blood is another sign soon after fracture, if fracture of radius patient Cant Supinate & pronate as those Muscles have lost their uses, if Humerus Cant raise arm, if Femur Cant raise lower Extremity, Long bones are more prone to fracture than any other, the Clavicle is broken more frequently than any other bone, next the fore arm bones, next the thigh, next below the Knee, next the ribs, At times it dont require any splint as in fracture of the neck of

the Radius which will do better by rest and quiet than by Splint unless it is a Young patient then put on Angular Splints. Instruments for adjusting fractures are Splints made of Various material those Mostly used are of Wood and Metal

Fracture of the Zigomatic Arch is broken by direct violence it is very Strong being Supported by the temporal and Master Muscles this fracture is attended with effusion Ecchymosis diagnose by ordering patient to open mouth then Search for fragments there will be but very little displacement

Treat by keeping patient in repose

Fracture of the Arch of the Orbit is broken at times and will involve the Nerves passing to the eye which may

Cause Amaurosis the fragments will fall, Treat by replacing and Suture if laceration

Fracture of the Malar Bone - is mashed in at time, by fall &c may be broken from Superior Maxillary Orbit of the Eye and temporal bone & pressed in the proper treatment is nothing it will cause but little deformity

Bones of the Nose - this fracture generally occurs from direct violence driving the bones into the Cavity causing great effusion of blood, diagnose by difficult breathing through nostrils from the effusion &c one would suppose Nose mashed when such is not the Case

Treat - by Manipulating Carefully with fingers & when you find any displacement of bones adjust them from

within outwards with a female Catheter,
if nose is mashed over on Cheek,
Treat - by placing patients head agai-
-nst wall and press the nose up which
will generally require considerable force
then replace bones with Catheter as
before
Fracture of the Superior Maxillary -
is of Seldom occurence but does occur
at time, from the Kick of a horse,
may be broken through to orbit or
through nasil passage, in this Case
we generally have much effusion
Treat - by placeing hand in mouth
and adjust as well as possible and
bandage, but little can be done to
any great advantage in this Case
though nature does much towards re-
=forming the deformity this is general-

=ly Complicated with fracture of the
inferior Maxillary, when the alveolar
processes are broken off with the teeth
adjust teeth and process, then band=
=age jaws together
Fracture of the inferior Maxillary=
may be fractured by being caught
and pried together, this fracture will
generally occur at the Symphasis,
though this bone is generally broken
by direct violence as falls, kicks &c
it will then be broken between the
Symphasis and angle, this is general=
=ly a Comminuted fracture and at
times both sides of the jaw is cleft
off obliquely and thin forced back=
Fracture of the Condyle, diagnosis by
placing fingers on the Condyles and
order patient to open mouth when you

will find the fractured Condyle will not move, in all fractures of the lower jaw the parts fall in therefor the indications in the treatment is to keep the fragments outwards by putting a piece of pastbord under the jaw being Careful to have it wider than the jaw and bandage with "Barton" Bandage described Dewitt pg 231 fig 80. the most difficult to treat is fracture on each Side of Symphasis Treat by poking out the chin to its proper place and then adjust a Silver arch upon the inside of jaw and fasten to teeth with fine wire then put Compress as a ball of lint and Splint on that then bandage and keep head prepared well forwards by pieces made fast to night-Cap and then to some part of

clothing or to roller shaped around body.

Fracture of the Clavicle — is mostly broken by Counter-Shocks and generally happens to Children by falling out of bed on the floor &c it often occurs and is not recognised and the child gets well through the efforts of Nature, this bone is most liable to fracture about the Middle near the Curvature it may also be broken either extremity, a bone broken in the Middle there is great deformity, not so much and at times scarcely any when the fracture occurs near either extremity the Moment the Clavicle is broken the movements of the Shoulder laterally cease, this bone will unite under most Circumstances though in some cases with Considerable deformity

Treat, the great object in view is to

apply an aparatus that will take the place of the office of the bone, making use of the arm as a lever, put a bolster under the Axilla then flex and press the elbow down to the body and apply bandage first around body several times then carry the bandage obliquely across the opposite shoulder the arm being pressed up by an assistant the shoulder will be higher than the other then put on a sling to support the wrist, deformity will occur under the best treatment.

Fracture of the Scapula, this bone is not often broken, generally broken from Cart-wheel passing over it there will be great effussion of blood and at times it is difficult to detect the fracture. Treat- apply bandage and keep

patient at rest

Fracture of the Acromion = occurs very seldom because it rests upon a Cushion of Muscles &c it is at time accompa = nied with fracture of th Clavicle the deformity will be the drooping of the Shoulder and the rotundity of the Shoulder will also be lost it is dete = cted by raising the Shoulder

Treat = same as fracture of Clavicle

Fracture of the Coracoid process = Some = times happens by an indirect blow, the Humerus being driven against it, the deformity will be in Straighten = ing the arm out the Coracoid will be much lower than usual being pulled down by the Coraco Brachialis & Short head of the Biceps Muscles and when the arm is drawn up it will

move in its place

Treat, by bandaging the arm to the Chest, flex the elbow and keep the parts at perfect rest.

Fracture of the Neck of the Coracoid very rarely happens and difficult to recognize.

Treat, same as fracture of Clavicle.

Fracture of the Humerus. this bone is very much exposed to injury it is often broken by Contre Stroke, also by direct violence and is very frequent the fracture

Fracture of the Anatomical Neck—is broken by falling on elbow and the Neck is driven up with great force the deformity will be in the shortening of the limb, and the tubercles will ascend and the heads of the bone will settle down into the Axilla

this recognized by pulling the arm
down and pushing the head of the bone
up when you will hear Crepitus, restore
the Shape and form
Treat, adduct the arm a little
from the body so as to relax the Mus-
cles then put a wedged bolster in
the Axilla put the small part of the
bolster under the Axilla so as to carry
the elbow out and relax the Muscles
then carry bandage around the arm
and body several times and Support
Wrist by Sling the Union will be
Cartilaginous
Fracture of the Surgical Neck
fractured by the same Kind of Violence
the deformity will be the lower fragment
drawn inward and the upper carried
outward and the limb is Shorter and is

easily recognised.

Treat- by thick edge of bolster in axilla and bring the arm gently down by the Side and apply Splint of binders-board Notched so it will go over the Shoulder somewhat, bandage the Splint then Carry the bandage around the trunk.

Fracture of the Middle of the Humerus the upper fragment will be drawn in-ward and the lower outwards

Treat- Make use of a long Splint let the Splint rest upon the acromion and bound by roller and Keep in easy posture with elbow in a Sling

Fracture of the lower Extremity. they are inflicted at times by falling on the elbow and also by direct Violence though more frequent the

result of falling upon the hands
when we have often have the outer Condyle
Cleft off, injuries of the Elbow joint are
very difficult of recognition and also
very difficult to Manage one bone may
be broken and the other dislocated,
deformity the Condyles will be carried
backward and the other fragments
drawn down there will be but little
Shortening not easily recognized, take
hold of the Hand and put your hand
in the elbow, and make traction when
you will hear Crepitus and the Natural
form of the joint will be restored,
not so in a dislocation the deformity
will be great and the limb more Short=
=ened and if you attempt to flex the
patients Arm in fracture you will
Succeed to a certain extent, but in

dislocation it will be suddenly checked
Treat - apply an angular Splint to
posterior part of arm and Compress
on the inside
Fracture of the Radius - a person
falling upon their Hand, the shock
is communicated almost entirely to
the radius Consequently it is very
often broken it may be broken below
its neck, in the Middle or near its
lower extremity in fracture of the Neck
the lower fragment will be drawn in
producing a tubercle the patient
Cannot pronate or Supinate his
Hand there will be Crepitus and pain
Treat - only use a Sling
Fracture below the tubercle, the
upper Extremity will be drawn inward
by the action of the Biceps Muscle

you will recognise in the same manner as the last and the treatment is the same. Fracture in the Middle of the bone frag= =ments will be drawn inwards, there will be Crepitus and pain pronation and Supination will be impaired

Treat, place arm in an easy posi= =tion and apply Splints upon the Anterior and posterior part of the arm should first wrap the Splints then apply bandages. Never apply bandages to arm before the Splints as it may Cause Anchylosis of the bones

Fracture of the lower Extremity of the Radius - occurs more frequent than Any other, not so easily detected, and not so easily treated, falling upon the hand often produces this frac= =ture it may be broken transversly

or obliquely which is very difficult to determine, but it does not matter which it is; in examining you will not always hear crepitus, grasp the hand and make traction upon it reversing its position

Treat - use a slight angular Splint upon the posterior part of the arm and a Straight Splint to the anterior part and apply bandage

Fracture of the Ulnar generally fractured by direct blows, but at time by Counter Stroke when they occur independantly of the radius they are easily recognized, pronation and Supination can be accomplished as the radius is concerned in this, insinuate your fingers between the bones and you can feel the ends rub against each

other —
Treat, apply Splints to the anterior and posterior part of the arm the Splints being broade
Fracture of the Carpus — they are very rare never occur except by Crushing violence as a railroade Car it will generally be necessary to amputate the part being so disorganized
Fracture of the Metacarpus — generally broken by a blow of the fist, you will find an angular deformity on part Springing up, does not impair the use of the hand very much
Treat, put the hand of the patient upon a Shingle and Cut it out to the Shape of the hande and a Compress upon the back then bandage
Fracture of the fingers — are to be

treated in the same Manner

Fracture of the Spine - fracture of the 1st 2nd or 3rd Cervical Vertibra death results instantly but below the patient may live for Several days but death will follow, almost certain the Spinal Marrow, being injured at any point above the Middle of the Spine death will generally take place in five or Six weeks but if below the Middle the patient may live on for Months and even years but always paralized in the lower extremities

Treat - all that can be done is to keep the patient upon his breast

Fracture of the Pelvis - is exceedingly rare but Sometimes happens, fractured by Counter Stroke or direct Violence it is generally attended with great injury

of the soft parts the patient will be unable to accomplish any movement there will be crepitus and pain death generally follows.

Treat— by putting a compress between the legs and a bandage around the Pelvis, it is at times broken by Crushing violence

Treat— by encircling the pelvis with a broad bandage or a wedged shaped bolster under each side

Fracture of the Femur— it is liable to be broken at the neck, the great trochanter or below the Condyles.

Fracture of the neck. not easily recognized at first, old persons are subject to this fracture it may be broken by Counter Stroke or indirect violence, the deformity is the foot

turned out and the limb, Shortened an inch or two, the shortening is not always at first but will generally happen in a day or two, generally have Crepitus but often not the patient will complain of much pain the Union is generally considered Ligamentary though Prof. Smith and many other eminent Surgeons think bony Union does take place the patient generally walks very well

Treat – by the anterior Splint and a Splint by the Side & apply bandages

Fracture of the great trochanter – difficult to recognize you will find it a little depressed and the limb a little Shortened

Treat – by perfect rest and the patient will recover with some Shortening of the limb

Fracture of the Femur below the trochanters — Deformity we have by the action of the Psoas Iliacus which pass down the thigh, the limb drawn upwards, thereby the superior fragment would be tilted forwards and the lower fragment drawn upwards and outward by the pelvic Muscles (Tensor Vaginæ Femoris, Biceps & Glutei) this produces an angular deformity on the outer aspect of the thigh.

Treat — should raise the knee and make traction thus bringing the fractured extremities of the bone opposite then keeping the leg flexed on the thigh and the thigh on the pelvis you relax the extending Muscles and adapt your splint (the anterior Splint) and apply

Swinging up the limb, with a slight obliquity of the Cords in order to keep up the Counter Extension and the patient will do well

Fracture of the Middle of the Femur In this Case the foot may be turned in or out and there may be Shortening as in the fracture just Mentioned there is also in most Cases an angular deformity on the outside of the thigh which is Caused by the Contraction of the adductor Muscles, the abductors being at the same time lax

Treat— make traction to Coadapt the parts of the limb, and apply the anterior Splint.

Fracture of the lower extremity of the Femur— in this Case the lower fragment is tilted backward into the popliteal

-space by the action of the gastroc=
enemi Muscle, the upper being directed
forwards by the action of the Tensor
Vagina and other Muscles the limb, is
also shortened by its being drawn up-
wards by the Quadriceps Muscle.
Treat - make traction to coadapt
the parts also flexing the Knee to re-
-lax the Gastrocenemius and flex the thigh
upon the abdomen to relax the Quadri-
-ceps and thus the fragments fall read-
-ily into place then keep them so by
adjusting the Anterior Splint and bandage
or by the use of "Sir Chas. Bell's" inclined
plane, the Anterior Splint is however the
most Simple, easily applied and more
Comfortable to the patient and therefor
better
Fracture of the Condyles - in this Case

the Condyles either the external or internal
is cleft off obliquely the bone being some-
what weakend here by the deep notch
between the Condyles forming a kind of
neck to each a perfect Union will not
be accomplished in this case for the
reasons the joint is Concerned and is
Constantly bathed by the Synovial fluid
and the parts are also Cut off from
any vascular aid by the surrounding
tissues and by its Capsule
Treat— flex the leg on the thigh to pre-
vent the action of the Gastrocnemius
Muscle which is connected with these
parts and apply the Splint and
bandages if fracture of the internal
Condyle make the patient what is
termed Knock kneed and a fracture of
the of the External Condyle Make

him bandyleggede this being due to an imperfect Union - most people expect from Surgery perfect results which is absurd, you must therefor disabuse their minds of such a view, explaining to them that there are some injuries that no art can entirely overcome, if it was in the Surgeon, power to reach the bone with his hands and adjust the parts and keep them so then we might have more perfect results but even then there are other arbitrary circumstances arising sometimes, therefor persons should never expect what is unreasonable

Fracture of the Patella - this frequently arises from muscular action the patient is in danger of falling backward and he makes a violent

Muscular effort to save himself. then the Quadriceps and their Ligament are put violently upon the Stretch and the Patella is Snaped. the action of the joint will be interfered with there will be tumefaction and you may perceive the the Natur of the injury from the depression at the point. the upper fragment being drawn up by the Quadriceps Causes a Gap between the fragments. In many Cases there will be Ligamentus Union there being no deposition of opeous matter Treat- the leg should be extended on the thigh and the thigh (of the) on the pelvis thus the Quadriceps will be relaxed. then place a Compress or roller above the upper fragment and make traction downwards the Gap in

- Splint having been adjusted apply bandage in this case the Splint Should be Straight having no Angle and the Cords Should rest Vertically instead of obliquely as in the former Cases

Fracture of the Leg. This is often Caused by a person lighting from a height upon his feet the Shock and Counter Stroke is Communicated to the Tibia and it gives way and then the Fibula. Sometimes either give way independantly of the other. this is generally by a direct blow, as of a Rock or falling from a height or Carriage and Striking the bone with force. The bone which is broken by Counter-Stroke is almost always an oblique fracture, when by a direct blow it is

generally transversely it may also be transverse fracture when broken by bending or springing of the bone, when the Tibia is alone fractured there is not always crepitation to guide you and there is no great deformity the patient cannot use the limb, and is aware something is wrong, trace with the finger the edge of the bone where it is not covered with muscle and you may then feel the irregularity at the seat of fracture but should you fail to detect it then place the hand under the heel, and allow the weight of the limb, to rest on the hand and you will then perceive a sinking of the bone at the point of fracture if you now place the other hands under this part of the

leg and support it the depression will disappear and thus you may diagnose it with Certainty, when both bones are broken the upper fragment is tilted forward not by the drawing of it upwards so much as the sinking of the foot, Sometimes the internal Malleolus is Chipt off and the lateral ligament ruptured in this Case the foot is turned outward and rests on its inside, this is generally attended with dislocation of the joint, if the external Malleolus is broken and also its lateral ligament, then the foot turns inward and rests on its outer border. Fracture of the Fibula — as by a direct blow, or the leg is not uncommonly in many Cases the patient may obtain use

and walk, but with difficulty, as the limb is not well supported) it is not always easy to determine a fracture along the Shaft to do so you Seize the foot and turn it outward and in. So doing run the hand along its Shaft and you may feel the motion of the bone

Treat— place the leg at rest on a pillow and let it alone

Fracture of the Fibula, near the ankle (about two or three inches above the joint) the lower end of the bone Sinks (forming a depression) the foot inclines to turn out and if you Seize it and turn it in you See the bones coming into their proper place and the depression is lessened, if you now turn the foot out again the

depression is brought back and increas-
Treat, turn the foot inwards, and
place a Splint along the inside of the
leg bind the foot to it and it will
do well

Fracture of both Tibia & Fibula – the
fracture in this case is apt to be
oblique and the leg is Shortened and
the bone may pierce the integument
and so produce a Compound fracture,
the upper fragment being tilted for-
-ard gives an angular deformity
in front

Treat – you must not flex the
leg much if at all for the action
for the action of the Muscles then
increases the deformity, as the defor-
-mity is accasioned mostly by the Sinking
of the foot therefor keep the leg nearly

Straight and flex the thigh somewhat and Support well the foot and lower part of the leg, as the foot has a vicious tendency to Sink there is great difficulty from the heel Sloughing if the weight is allowed to come on it, the weight must therefor be equalized so the pressure will not bear on the bandages over the heel, this you may do by turning the foot outwards somewhat and bandage the Anterior-Splint neatly to it, and then the support is transfered along the inner side of the foot and this with the gentle traction of the Cord by its obliquity Keeps the parts in place. In these Compound fractures there is nothing so well adapted as the Anterior Splint you will be compelled to dress the

wound daily and you may thus get at it readily without disturbing the adjustment of the fractured parts. If the fracture is not Compound then the modified Starch Splint answers every indication and will give Satisfactory results. Support the heel and limb, making Gentle traction to Keep the bones in appos=ition apply the Splints on the inner and outer Aspects of the limb, Carry=ing them above the Knee with a Slight Angle and then bandage the heel being supported on a pillow until the Splints are dry after which it Cannot get out of place, the heel will bear this support well for the little time required for the drying of the Splints

Fracture of the Bones of the foot rarely occur. the Os Calcis is very Strong and if the astragalus be fractured it is generally obliquely for the most generally fractures of these bones require amputation. but this is not always the case) then flex the leg on the thigh to relax the muscles and apply bandage as Splints are of no use in this Case when the astragalus is fractured it is generally from Carrying down from a height on the foot, the only deformity is that the arch of the foot is lessened being (flattened and broader than before)

Fracture of the Metatarsus – these are occasionally broken by violence and at times by muscular force as in the act of turning the fractured ends

are inclined to arch upward, causing an angle on the upper surface of the foot

Treat. as you do fracture of the bones of the hand viz place a flat Splint under the foot and you may use a Compress on the top over the seat of fracture and so bandage.

Treat Compound Fractures- Compound fractures of the thigh are rare and they used formerly to be amputated but now are treated with great success by the "anterior Splint" In these cases there a great deal of inflammation, but yet the patient will not bear much bleeding, therefore you must support well the part so as to avoid as much as possible all irritation

keep open the bowels, give nourishing diet and when the powers of life are somewhat restored from the Shock, give tonics, It is necessary to remove any fragments of bone that are present; two or three inches of the Shaft may be removed, and the parts will Still Unite all necrosed bone should be removed and you may detect it by the probe thus feeling it rough and loose

The Anterior Splint Mentioned in this dissertation is the invention of our Honord Professor of Surgery Prof N. R. Smith, its superiority over all other apparatus for fracture and Gun-Shot wounds of the lower

Extremities is appreciated by all unprejudiced Surgeons and by the Governments of the Confederate States also of the United States and if I am not enormously informed it is in use with other inventions of his in private and public practice in portions of Europe. Though notwithstanding its Simplicity its Cheapness, its Comfort to the patient above all other Aparatus there are those in this Country who do not recognize it. I imagine for no other reason than the fact that it did not originate in the land of Wooden-Nutmegs &c. I have seen it in use in the Chimberazor Hospital in Richmond Va C.S.A with great Success in Gun Shot Wounds and

and fracture of the Humur, previous
to its use it was their rule to amputate
of which I saw a Number after the
Battle of Manaka and "Bull Run"
of which at least four fifths proved
fatal, but when the Government adopt-
ted and introduced this splint
into the Army I was informed
that the Majority of the same
Kind of Cases recovered with its
use, Therefor the Soldier should
Consider it a God-send Let him
be the tyrants tool, for Subjugation
or the bold defender of home and
all that's dear to a man with a
human heart —

An

Inaugural Dissertation

On

Typhoid Fever.

Submitted

To The Examination.

Of The

Revest Regents & Faculty of Physic.

Of The

University of Maryland.

For the Degree of Doctor of Medicine

By

Christopher Fawcett.

of Baltimore.

AD. MDCCCLXIV.

Typhoid Fever

Few diseases perhaps, have of late years attracted more attention among the medical profession, than has typhoid fever. This name was first conferred on the complaint by Louis, in order to contradistinguish it from typhus fever, a disease to which in some respects it bears considerable resemblance, yet in others widely different. Indeed the two diseases had long been regarded as identical, by European Physicians, and but little light had been revealed respecting the true nature of typhoid until after the Anatomical researches of Louis. This eminent pathologist from frequent post mortem examinations in the hospitals of Paris, became fully convinced of the essential difference between the two diseases, by observing a certain intestinal affection, which he had almost invariably found to accompany typhoid, while in true typhus no such

affection had ever been observed. These views respecting the pathology of typhoid were afterwards confirmed, both by the Profession of Europe and this Country, and since then, it has been recognised as a distinct disease. Indeed the intestinal complaints may be regarded as characteristic of typhoid fever, as the eruption is of Small pox.

Symptoms. The disease most commonly begins with feelings of languor, weariness &c. Succeeded by a chill of longer or shorter duration, which soon gives way to fever. Sometimes it begins abruptly with the chill, without the usual premonitory symptoms. But more frequently it comes on slowly and insidiously, so that it is often impossible to fix the precise point of commencement. The degree of febrile reaction is exceedingly various. Sometimes it may be very mild and then again it may have all the violence of which the system is susceptible

The first rush however is usually moderate. There are perhaps impaired appetite, thirst, increased frequency of pulse, furred tongue, flushed face, headache, pains in the back and loins, numbness or soreness of the limbs, looseness of bowels, scanty urine, and more or less disturbance of all the functions generally.
The pulse is often but little increased above the natural standard. It is usually at first from 90 to 100 in the minute, but it differs greatly in different cases. Sometimes it runs up to 120, 130 or even 140, and in some cases it has been known to reach 160. It is said to be more frequent in females than in males. The abdomen, though at first flat gradually becomes distended, and elicits upon percussion a hollow or tympanitic sound. It is usually tender to the touch especially in the right iliac region and a gurgling sound may be often

heard upon forcible pressure with the hand. This is usually due to the morbid collection of air and liquid in the colon. The occurrence of diarrhea is common in this disease. Sometimes it sets in at the commencement, but more frequently not until the fifth or sixth day. The stools may not amount to more than five or six in the day, though ten or twelve, or even more, are sometimes not uncommon. They are usually thin and watery, of a somewhat yellowish color, and in appearance have been compared to that of pea soup. They are often attended with a good deal of griping pains in the bowels, tenesmus &c. Hemorrhage from the bowels not unfrequently takes place in the advanced stage of the disease. The quantity of blood discharged is sometimes very great. In some instances it is bright red, in others it is dark and disintegrated. Although

a dangerous symptom. Hemorrhage from the bowels is by no means fatal. It requires however the careful attention of the Physician, as by its long continuance, it may produce great exhaustion. Epistaxis or hemorrhage from the nostrils is also very common, but is in no wise important, except as a sign. It usually occurs early, and seldom amounts to more than a few drops at a time. It may however become copious, and require the interference of remedies to check it. But perhaps the most characteristic symptom of typhoid fever is the rose colored eruption. This consists of small red spots about a line in diameter, and very much resemble flea bites. They occur most numerously on the chest and abdomen, but may sometimes be seen on the extremities armpits or groins. They disappear under pressure of the finger and

return when the pressure is removed. Their number varies greatly, sometimes not amounting to more than two or three - Sometimes in almost countless numbers. They appear in successive crops, each lasting three or four days - Cases sometimes occur, though seldom, in which they are absent - Out of 70 cases reported by Schonel and Genest, they were absent in fifteen or about one quarter. They usually make their appearance between the seventh and fifteenth day or later, but are never seen at the commencement. At a still later period may be seen another eruption called Sudamina, but differ from the foregoing inasmuch as the spots do not disappear under pressure - These are small minute vesicles, about the size of a pins head, somewhat transparent, and have to be viewed obliquely in order to be seen. They may

be felt by the touch. They are usually most abundant on the neck and upper part of chest, but sometimes may cover thickly almost the whole body. As a diagnostic Sign, they are of but little value, being present in other febrile complaints as well, as in that under consideration. Petichiae is another variety of eruption which appears in the form of dark blotches, but these are nothing more than extravasated blood beneath the cuticle. As the disease advances, the (febrile) symptoms gradually increase until at length they assume a more typhous character. The pulse increases in frequency, becomes more feeble and compressible. the appetite is completely extinguished, there is intense thirst, the tongue becomes heavily coated with a darkish brown fur, while dark lordies collect around the teeth, gums an lips. The expression of countenance is also

Somewhat peculiar, being usually blank apathetic or dejected. The patient complains constantly of headache, restlessness and want of sleep. Subsultus tendinum, occasional muttering, and other signs of nervous and mental disorder are very common, especially in the advanced stages. The occurrence of bronchitis and pneumonia are also very common during the progress of the complaint. Retention of urine is not unfrequent in typhoid fever. It generally takes place towards the close, sensibility being often so defective that the urine is allowed to accumulate in the bladder, without the want of micturition being felt, and enormous distention is thus produced, often endangering rupture of that organ. To avert this, the condition of the bladder should be examined daily, and the use of the Catheter employed, if necessary.

The character of the urine is also changed, both as regards quantity and quality. Mr. Solan who has paid special attention to it in this disease, has found it to be more scanty, higher colored, and denser than in health, equally acid, if not more so, much more abundant in urea, and occasionally albuminous. The existence of the latter is said to be an unfavourable sign. The occurrence of bed sores is probably one of the most frequent, and troublesome complications, that attends typhoid fever, and should be carefully guarded against. Large gangrenous sloughs often take place over the sacrum and hips, in consequence of the great diminution of vitality with which the complaint is so generally attended. Another characteristic symptom is dullness or lobelitude of

mind which often amounts to drowsiness, stupor, or even coma. Delirium often sets in, but usually in no great degree until the eighth or ninth day, or later. It is generally mild and indicates rather a want of power in the brain than irritation. In some instances, however it becomes violent, so that it often requires force to restrain the Patient. He is very apt to fancy himself away from home, and in his delirium, will often arise from his bed, attempt to leave his room, and perhaps fall exhausted. Towards the close, the delirium not unfrequently becomes low and muttering, so that the Patient is often seen to lie on his back, with his eyes half closed, and looking with a peculiar listless and vacant stare. He picks at the bed clothes, and in a low and indistinct voice utters sentences, having but a vague

connection - Involuntary discharges is apt to take place at this stage - If the case is to terminate unfavourably, the pulse generally gives way and becomes either excessively frequent and fluttering, or slow and scarcely perceptible, the extremities become cool, and the whole surface bathed in a clammy sweat, the countenance becomes pale and ghastly, the respiration feeble, but laborious, and death at last comes to end the struggle - When recovery is about to take place, the countenance assumes a more natural aspect. The tongue becomes more moist, and gradually parts with its fur especially from the tip and edges, the pulse diminishes in frequency and acquires greater fullness, Gentle perspiration takes place, the skin becomes cooler and more relaxed, the abdominal distention diminishes, the appetite

gradually returns, and the patient enters into the convalescent stage. The duration of this disease is usually protracted. Death sometimes takes place on the sixth or seventh day, but so early a termination is very rare. It generally occurs about the end of the third or fourth week. The period of convalescence is variable It sometimes begins on the eighth or ninth day, but rarely before the third week. In some instances however the disease has been known to run for six weeks or even later, and recovery take place afterwards. So that it has no fixed limits.

Anatomical Characters. Post mortem examination almost always reveals evidences of inflammation, especially the elliptical patches, or aggregated mucous follicles of the gland of Peyer and Mesentery Glands. These are the parts most liable to become the seat

of disease, and should they after death be found healthy, it might well afford reasonable grounds for to doubt the existence of the disease. Some authors state that there is not a single organ in the whole body in which signs of inflammation may not be detected. In cases that have died in the early stage of the disease, the patches of Peyer have been found thickened and their surface elevated from one to two lines above the surrounding mucous membrane. The largest are from two to three inches long, and from half an inch to an inch broad. They are generally smooth, with well defined edges but are sometimes rugged and irregular. The patches vary in number from one up to thirty, the average however is about ten or twelve. They usually appear upon the surface of the intestine opposite the mesentery. They do not all originate at the same time, but in

general come on successively, those in the ileocecal valve first appearing, and afterwards those higher up, even into the Jejunum. The hard patches often undergo Resolution, but the Soft always ulcerate. In some instances the floor of the ulcer is the mucous coat, in others in consequence of the destruction of that tissue, it is the peritoneal coat, so as to form a communication with the peritoneum, and when this does take place, it is always in the vicinity of the Cæcum. Although dangerous ulceration of the bowels, is not necessarily fatal. On the contrary numerous cases of cures have been reported, and these have been confirmed by subsequent dissection. The Spleen exhibits striking evidence of disease. Sometimes, it is increased to four or five times its natural size, and softened to the condition of a

bloody pulp. The liver too is occasionally found to be softened and otherwise altered, though this is much less in extent, than in the Spleen. The kidneys are comparatively free from disease.

Causes. Any circumstance calculated to depress vital power may produce typhoid fever. It is very apt to prevail where large numbers of human beings are congregated. Such for instance as military Camps, Ships, Prisons &c. Poverty, want of cleanliness, intemperance, or vicious indulgence of any kind may act as predisposing Causes. The disease is chiefly confined to large Cities, especially among the lanes and alleys, where the poor generally reside. That it is produced from the exhalations of the human body, or from human excretions while in a state of decomposition, is now

generally admitted. These doubtless enter the blood through the medium of absorption, there vitiating and impairing its vital properties. Just on the same principle, perhaps, that the Specific poisons enter the System, such as often Results from Gangrene or, wounds during dissection. The Young are said to be more subject to the disease than the old. From Careful Statistics, it has been shown that the greatest number attacked is between the ages of 20 and 25 years, and diminishes from that upwards. Persons beyond 50 are Rarely attacked with the disease. It is said that it never occurs the Second time in the same individual. This may account for its Comparative infrequency in the old.

Diagnosis. The diseases with typhoid fever is most liable to be confounded are typhus and bilious fevers.

Although typhoid and typhus are in some respects analagous, yet there are certain points of difference which will always enable the practitioner to make a sufficiently accurate diagnosis. Instead of the diarrhea at the beginning or the extraordinary susceptibility to the action of cathartics, which almost always attends typhoid in typhus, it is just the reverse, being usually accompanied with constipation, and when fecal discharges are obtained, they are generally darker and more offensive. Hemorrhage from the so frequent in typhoid, scarcely ever occurs in typhus. In the latter there is more turbidness of the conjunctiva, and much greater debility. The eruption differs also from that of typhoid. It generally commences earlier, is of a darker, and more livid hue, is much more abundant, does not appear in

Successive Crops, and instead of being on the abdomen and chest is found equally over the whole body. The Anatomical characters of the two diseases are very different. The Peculiar diseases of the Glands of Peyer and the Mesentery Glands, so common in typhoid is never found in typhus - The Spleen too is much less frequently enlarged in the latter disease. In distinguishing typhoid from bilious fever, it is only necessary to remark, that in the latter there are more nausea and vomiting of bilious matter, more yellowness of the conjunctiva and Skin, is of shorter duration, and frequently ends in intermittent: While the peculiar Symptoms so characteristic of typhoid - Such as diarrhea, Epistaxis dullness of expression, tympanites, and rose colored Spots, are seldom if ever observed in bilious fever.

Prognosis. Although a dangerous if improperly treated, yet typhoid fever fever is by no means a very fatal disease in private practice, the majority of cases always end in recovery. But under unfavorable circumstances, it may however take on a very malignant type, and become exceedingly fatal. This especially the case when it breaks out among Ships' crews, the inmates of hospitals and such, who are deprived the luxury of a pure air. But no case however desperate, should be despaired of until death is inevitable. Probably there is no disease yields more hopefully to the controlling influence of treatment, than typhoid fever. It is well known that cures have been effected in cases the most apparently desperate, even those associated with ulceration of the bowels.

Treatment. The first and most important point to attend to in the treatment of this disease is ~~to attend to~~ the state of the bowels. A small dose of Castor oil, or Sulphate of Magnesia should be given, even should there be diarrhea in order to cleanse the bowels and free them from the contact of irritating matters. If there be much irritation or straining the Castor oil should be preferred. It may be given in the form of emulsion, should it disagree with the stomach, and the addition of twenty or thirty drops of laudanum, will be found highly advantageous. The febrile symptoms must be treated according to the circumstances of each individual case. When there is a strong and excited pulse blood may be taken from the arm in the quantity of from eight to sixteen ounces, as the strength of the patient will permit.

But in the great majority of cases it will be found a much better practice to dispense with bleeding altogether, as the disease is attended with a good deal of prostration generally. When the skin is hot and dry the Respigerent diaphoretics may be employed. The best of these is the Spirits of Mindererus given in doses of a tablespoonful every two or three hours. It may be very usefully combined with tartrate of antimony in doses of one eighth to a quarter of a grain, should the stomach not be irritable. Sweet Spirits of Nitre is also a very good addition. Should there be indications of cerebral excitement, cups or leeches should be applied to the temples or back of the neck. If the patient suffer from nausea or vomiting, the effervescing draught should be administered, prepared in the

usual way. It not only acts in quieting irritation of the Stomach, but is also an excellent diaphoretic When there is much pain in the abdomen, with more or less flatulent distention, local bleeding, warm fomentations, emolient Cataplasms, and Rubifacients, or blisters Should be employed. Should any tenderness be found to exist in the right iliac Region or elsewhere a few ounces of blood Should be taken from the tender part by leeches. If there be diarrhea, it may be allowed to take its Course, but Should it become exhausting it Should be arrested by Small doses of acetate of lead and opium or other mild astringents. Such Camphorated tincture of opium, tincture of Kino or Catechu. In order to support the failing Strength beef tea Should be given freely

throughout the complaint. When
symptoms of prostration make
their appearance stimulants should
be at once resorted to with a view
to arouse vital action. Of these
brandy is decidedly the best, and
should be given freely, and continu
-ed for some time if necessary
Carbonate of ammonia and
wine whey may also be given
at the same time. In order to
procure sleep and quiet restless-
ness, small doses of Sulphate of
Morphia, Hoffman's anodyne,
or Camphor water. Should be
given at bed time. When there is
reason to suspect the existence of
intestinal disease, the best
Remedy is the Spirits of Turpentine
Given in doses of from ten to
twenty drops. It should be given
in emulsion. In protracted
cases where the tongue is slow in

cleansing, it is peculiarly adapted as it is said to facilitate that process - And in ulceration of the bowels it is regarded as an almost invaluable Remedy, being supposed by some to act as a specific.
When there is much thirst small fragments of ice should be kept in the mouth and allowed to melt there. This will be found very grateful to the patient. The drink should be bland and nutritious. Barley water sweetened with loaf sugar, and flavoured with lemon juice will be found a very pleasant beverage. Other demulcents, as Sago Tapioca, flaxseed tea, or Slippery elm mucilage may also be given.
Headache should be relieved by cold applications to the head - such as cold cloths being out of ice water, or what is still

better pounded ice put into a bladder and applied to the fore head and temples. Should Stupor or delerium set in, and not yield to the above measures. The head should be shaved, and a blister applied, either at the back of the neck or over the region, as the Practitioner may deem expedient. When convalescence takes place a little chicken broth, or a piece of broiled chicken, or tender mutton may be allowed. The bedclothes of the patient should be frequently changed, and a strict regard should be had to ventilation and cleanliness. Attention to these is of the utmost importance.

An Inaugural Dissertation

on

Malaria

Submitted to the Provost, Regents and Faculty of Physics of the University of Maryland for the Degree of Doctor of Medicine,

by

Joseph Aloysius Mudd,
of Millwood, Missouri.

February 1864.

To Professor Richard McIlvaine.

As
an appreciation of his qualities as a
teacher and a gentleman this book
is respectfully inscribed by his pupil
The Author.

Malaria.

Of all the subjects which claim the attention of the Physician and the Hygeist none is more interesting or important than that of Malaria. Interesting, because the essential nature of the phenomena and the laws which are supposed to regulate and govern its action have been the subject of [illegible] [illegible] [illegible] [illegible] [illegible] the [illegible] [illegible] [illegible] [illegible] was first directed to the fact of its existence; and so important because of its great potency for evil in sowing the seeds of disease in the human frame.

It is one of the accidental or non-

essential constituents of the air; but the [illegible] of the ultimate particles of [illegible] it is [illegible] has not yet been definitely ascertained. The oldest theory respecting [illegible] that which [illegible] most generally credited up to a period not far [illegible] from the [illegible] which has even to this day many able [illegible] Lancisi, and which was promulgated by him in his great original work on this subject — De noxiis paludum effluviis, about the year 1695. His theory was [illegible] substance. [illegible] essentially composed of the gaseous effluvia of the putrefaction of vegetable [illegible] matter — but more especially the former —

when acted upon by heat and moisture. Lancisi was the first to give to the world very very clear ideas [illegible]. His opinion, so plausible in itself, was therefore very generally received. But the observation which supported this theory although [illegible] in [illegible] were [illegible] complete. The result of the labors of Dr. William Ferguson of Scotland has clearly proved this. [illegible] is due [illegible] of having [illegible] though [illegible] universally accepted opinion. By actual observation he has shown that the presence of [illegible] vegetable [illegible] matter is not necessary and of [illegible] on the production of [illegible]. Many [illegible] in support [illegible] detailed by Dr.

Ferguson in his paper: "On the Nature and [illegible]" published in the Edinburgh Physical Transactions. Of them the most interesting are the following: In the hot and dry summer of 1794, the British army in Holland encamped at Rosendaal and Oosterhout. The country here was level, and the soil consisted entirely of sand dry on the [illegible] could exist here, but malarious fevers of both the intermittent and remittent type [illegible]

Garrison to the above was the case when, some years after, the British were defeated at Talavera in Spain, and retreated

into the sandy plains of Estremadura. The country was so dry that at this season the Guadiana, a considerable river, and all the smaller streams had ceased to run and had nearly dried up. No vegetable matter was here. Still, in the language of Dr Ferguson, the troops "suffered from remittent fevers of such destructive malignity, that the enemy, and all Europe, believed that the British host was extirpated." These facts, and the many others adduced by the same writer, prove that Malaria and vegetable decomposition have no essential connection. That they frequently go together is also true, and in circumstances evidently

But although Dr. Ferguson succeeded in disproving the error of Lancisi, he did not attempt to explain the real occasion of malaria. This was left for the late Professor Mitchell of the Jefferson Medical College of Philadelphia. The theory advanced by him in a series of lectures delivered in that institution in the year 1849, is "that Malaria is occasioned by "poisonous fungi" in the atmosphere, sufficiently minute to be carried about by the currents of the air" and "that it acts upon the organism through the medium of the function of respiration."

Whether Professor Mitchell has really solved this difficult question cannot be yet positively determined. It is believed by

very many that he has. This belief seems to be supported by the following strong evidences. In many malarious regions have been found in the atmosphere numerous spores of fungi. That these fungi are capable of producing disease has been demonstrated by actual experiment. The spores of the fungi Lycoperdon vesta when inhaled cause narcotism and anaesthesia; and if the inhalation be kept up long enough, death by coma will result. These facts were proved by the experiments of Dr. Richardson, of London, in 1853. Dr. Hammond, Surgeon General of the United States army, and formerly a member of the faculty of this University, also contracted an intermittent fever from

inspiring a list of damaged hay. It was evidently occasioned by inhaling the spores collected on the hay. He also mentions the fact of headache and other febrile symptoms being induced by handling old books musty from disuse. Dr Salisbury of Ohio inoculated himself and twenty-seven others with the fungous growths of oat straw, and the measles resulted in every instance. The remarkable growth of fungi during the night is coincident with, and may perhaps account for, the fact that Malaria is more active at this time than at any other.

Having given the most probable theory as to the nature and composition of Malaria, there remains to be added the [illegible]

the prophylaxis, because we can only institute efficient measures of protection against its effects, when we thoroughly understand the rules by which it is governed. The importance of this will be fully appreciated when we consider the great amount destruction of human life which it occasions in those regions where it is most [illegible] generated.

Malaria is more active in the night and more powerful at night. It may be that it is more freely generated at this time, or that the cooler temperature of the night condenses it and therefore brings more of its particles within reach of inhalation; or it may be that during the [illegible] it [illegible] to be

brought under it influence. Certain it is that to sleep in the open air during the night in malarious district is highly dangerous. Lancisi was aware of this, and advised persons not to travel through the Pontine marshes by night; and the same advice is still given to strangers at Rome. An interesting case illustrative of this fact is given by Dr Lind: In the year 1766, the British ship of war, Phoenix, touched at the island of St. Thomas on the coast of Guinea. The crew was perfectly healthy at the time. Sixteen of them remained on shore several night; every one of them contracted the disease, and thirteen died. The rest of the crew—two hundred and eighty men—were continually on shore during the day, but returned to the ship

at night, not one suffered the least from the Malaria which was very abundant on the island. The same ship, at the same place, the next year, "lost eight men out-of-ten, who had imprudently remained all the night on shore."

Malaria is more powerful in low situations and near the ground; it has a tendency to settle near the surface. It has been observed that in malarious regions, at times when its influence is most felt, that persons living on the upper stories of houses were vastly more free from malarious diseases than those of the ground floors. This fact has also been noted and turned to advantage in the construction of barracks for soldiers in infested countries. Dr Ferguson tells us of the British garrison at English

Harbor, in Antigua, in the year 1816. They occupied three sets of barracks, situated respectively above a marsh [illegible] the intense Malaria, three hundred, five [illegible] [illegible] in hundred feet. [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] seized with [illegible] [illegible] bilious remittent and [illegible] died within thirty six hours. Those of the first barracks suffered remittent fever; those of the second were scarcely; while those of the third — the highest from the marsh — remained free from the disorder.

Height here is not regarded as absolute, but as relative to the place where [illegible] malaria is generated. There is a good illustration of this in the fact that the village of Laguna, in New Mexico, while it is over

five thousand feet above the level of the sea, is very subject to malarious diseases. The origin of Malaria in this case is little less elevated than the village.

The seeming exceptions to the rule that Malaria tends to the ground may be accounted for by the fact that it is not [illegible] of being moved by the wind; and is often carried to the tops of high hills, and frequently over them by constant winds. Lancisi observed this property of motion. He relates an instance of a party of thirty ladies and gentlemen sailing in the Tiber, when the wind changed, bringing the emanations from a neighboring marsh. Twenty nine of the thirty were attacked with the [illegible].

Malaria has an affinity for water. The

exemption ... disease among the crews of ships which cruise near lands where the Malaria abounds, is attributable to this property. By this affinity, the emanations of miasmata become blended with the water before they reach the ship, though it be navigated very near the land. This is an undoubted fact, and many writers on the subject bears testimony to it. Sir Gilbert Blane and Sir John Pringle [illegible] had better opportunities of noticing this fact than most other medical men afloat. Dr. Bowdich, Macculloch and other high authorities mention it; and Prof. Hammond, formerly of this school has himself observed the immunity of situations between which and the origin of miasm there intervened

a sheet of water. On this principle is explained the fact that Malaria is more active during night, because at this time the atmosphere contains more moisture.

Malaria has an attraction for trees and other like substances. The importance of this fact can be readily seen; as also the protective power of belts of trees etc, when between habitations and the marsh poison. The following is quoted from Dr. Thos Watson; "New Amsterdam, in Berbice, lies on the lee side of an immense swampy forest in the direct track of a strong trade wind that blows night and day, and pollutes even the sleeping apartments of the town with the steam of the marshes; yet it brings no fevers. The inhabitants [illegible] it would be almost

certain death for a European to sleep, or even remain after nightfall, within the verge of the forest. To cut down the trees would not only be a perilous operation in itself; but would let in pestilence upon the town." This property of the miasma was well known to Lancisi. He remonstrated against cutting down the trees between Rome and the Pontine marshes.

The influence of the miasma is diminished by the cultivation of the soil. This is an important fact, and one well understood in the western sections of this country. It has been observed that new and untilled lands which were miasmatic, in an intense degree, yielded up their deadly properties and became

perfectly healthy under the beneficial influence of cultivation and the advancement of the arts.

If we have seen the natural sequence of cause and effect we can also see and which is far more beautiful the [illegible] and the [illegible] of a beneficent Giver and Preserver — the gradual adaptation of the animal [illegible] of the atmosphere, of the properties of the soil, of the nature of the climate &c., to the requirements of the progress of human civilization.

Having given the principal laws which have been observed to govern the action of Malaria, there now remains little to be said. The prophylactic measures are important;

yet simple. The same remedies which eradicate, from the human system, the effect of the poison, will when carefully and judiciously administered, so strengthen and fortify that system, that the most insidious and the most violent attacks are harmless. The history and the laws of this noxious miasm, too, will suggest beneficial means of protection.

The writer has done with his subject. He cannot claim that he has exhausted it; nor even that he has handled it in a manner satisfactory to himself. He would, however, offer no apology for the deficiencies of this dissertation, nor for his limited acquaintance of the subject of which it treats; being as yet [illegible] in the Hygienic art,

and writing at a time when it is necessary to bring every energy of the mind, and to devote every moment to the accumulation of knowledge of more immediate consequence to him as a candidate for the honors and the title of Doctor of Medicine. Nothing but a time honored usage of the University, as well as a requirement of its Faculty would induce him to submit to their examination the present treatise on a subject connected with medicine. He hopes that his efforts to obtain a medical education have not been altogether vain; and that he may become at least a useful member of the profession. To be able to alleviate somewhat of human misery, and to minister to the wants of the body in disease are

his highest esteem.

To the gentlemen of the Faculty, to whom the author of this treatise is indebted for a large portion of the medical knowledge he possesses he tenders his sincere thanks for their kindness. Their example as Physicians merits his utmost deference and attention his highest regard

The University of Maryland, among whose children he is proud to number one brother and father, will be ever remembered by him with the liveliest gratitude. In after years he will revert with pleasure to the sessions of 1862-3 - 63-64, spent beneath the roof of it, his Alma Mater.

February, 1864.

The End.

An Inaugural Dissertation On Pneumonia.

Respectfully Submitted—
to the examination of the
Provost Regents
and Faculty of Physic
of the University of Maryland
For the degree of Doctor in Medicine

By

James A. Billingslea
of Maryland

Session 56 — 1863-4

We have chosen as the subject of our Inagural Dissertation, a disease which the discoveries of modern times have invested with peculiar interest. No malady to which "flesh is heir" has been so completely mastered and understood in all its details, from its earliest commencement, through all its changes, whether for recovery or death. In truth to such perfection has modern science attained that a well educated ear can not only follow it in all its stages, but can note minutely the changes from hour to hour. It may not be inappropriate to make some remarks concerning the science which has lead to such improvements in diagnosis.

Hippocrates makes mention in his writings of certain sounds being heard by listening attentively to the chest. This is the first mention made by any medical writer and little notice was taken, practically at least, until the present century when Laennec of France discovered or rather invented the Stethoscope. This gave a new impulse to the sciences, denominated Auscultation, and renewed the zeal of those engaged in investigating diseases of the Thoracic organs. Percussion also became more fashionable, proving in itself no mean auxiliary to the one previously mentioned. These two discoveries then may be said to have been the foundation for making accurate diagnosis of

diseases of the Chest, especially that of

Pneumonia.

Pneumonia may be defined to be essentially inflammation of the substance of the lung or as has been more fully expressed, "That condition of the lung which leads to the formation of a plastic deposit in the cavities of the air cells, which plastic material by filling up the interior of these cells, and the finest bronchial tubes, consolidates the previously soft and crepitant pulmonary tissue". This latter definition which is somewhat extensive has been objected to by some, on what grounds we hardly know, for we cannot conceive how any one part can become inflamed and parts so directly in apposition and of the same structure escape.

Hence Pneumonia must be inflammation of all the Textures.

Writers have pretty well agreed to divide this disease into the three stages of Engorgement, Hepatization and Purulent Infiltration. The first stage may be recognized by containing more blood than natural, somewhat dark, and gives evidence of much less air than usual, though it still crepitates under pressure and will not sink in water. By some the term Splenization has been used to explain the appearance presented while in this condition. The Lung in this stage does not collapse when Chest is opened. This condition of things may last for some, variable of course in different cases, when it submits to treatment, may remain stationeary for

several days then gradually resolve into a healthy condition; or should this not take place the inflammation increases and thus originates the 2nd Stage of Hepatization or Solidification. In this degree of the disease as the name implies, the lung is solid and the air cells impervious to air, the consistence of the organ is much altered, being much easier torn and in handling gives evidence of much less resistence to pressure, in fact the spongy structure so characteristic of lung tissue is entirely lost. It is yet red in color, but if placed in water will no longer be buoyed up by the Bronchial tubes and must of necessity sink. In the first stage crepitation was distinctly felt, this too has now disappeared and a

portion of the now hepatized lung will under pressure feel more like Liver, than the Spongy organ it represents. If the Thorax is opened and inspected with care Evidence sufficient will be seen of great Enlargement of the Lung dependent on the congestion and effusion of Blood &c into its tissues. These are the principle changes noticed in this second stage of the disease; How long this state of things will continue or whether they will proceed further and inaugurate the third (3) Stage, will not admit, in this place at least, an answer. Purulent Infiltration or Gray Hepatization is the term given to designate this form of the disease. On inspecting a Lung in which the Inflammation has proceeded thus

far we will see the prominent points which in the other stages were morbidly red, presenting now a grayish partially mottled appearance; on subjecting the lung to pressure purulent matter will be forced out and the structure of the organ will be found excessively rotten, easily compressible under the finger and giving evidence all through its structure of becoming disorganized. It is in this stage that abscesses are sometimes discovered, though late research has demonstrated conclusively, that what used to be thought a common complication, is in truth very uncommon, as hundreds of examination by both Laennec and Andral, failed in

but one or two cases to find true and well defined abscess; indeed all writers now concur in asserting the formation of collections of pus be it to of very rare occurrence. One source of errors mentioned by writers, is the forming of abscess by the examiner himself, by pressure into the yielding structure of the Lung.

Authors also speak of Gangrene as being an occasional complication or result of the inflammatory condition present; this, Watson, from whom we have not scrupled to borrow, says, certainly does sometimes intervene, and is known by the darker color of the Lung, and discovered by the horrible odour present.

We have thus given with some minuteness the anatomical lesions discoverable after death. But it must not be expected to find in all cases the whole, or even greater part of the Lung involved in the disease, frequently patches as it were scattered here and there through the structure will be the only lesion discovered.

It has been found by Experience that Inflammation does not attack irregularly any part of the Lung, although there is a form of the disease which consists of spots of inflammation, as it were, scattered through any part of the parenchyma; this has been called Lobular Pneumonia. This last is a special form of the disease and recognized by all writers, we

wish however to speake of the particular part, which it has been found to show the greatest preference for. All recent writers speak of the right Lung being attacked much more frequently than the Left; thus in ten cases of Pneumonia, five would be in the right; three in the Left, and two in both, this is about the usual ratio, though many may differ considerably. The posterior and lower portion of the right Lung, is by preference the most common seat of the disease, in its commencement and from thence it may spread, involving the whole of one or even both Lungs. No explanation, save the increased size of Right Bronchi, has been offered to account for increased susceptibility.

The most frequent complications of this disease are Bronchitis and Pleurisy; the former exists in every case of Pneumonia indeed frequently the disease commences by inflammation following the course of the tubes, which ramify through the structure of the Lung - Pleurisy is by no means an unfrequent complication, the anatomical structure of the parts, renders it difficult for us to see how parts can be so contiguous, and yet not participate in each others maladies - Pericarditis, Icterus, and many other diseases may be occasional accompaniments.

We will next endeavor to give an account of the Auscultatory signs, which lead us to suspect the Existence of inflamma-

In examining a healthy lung with the ear, the first sound that attracts our attention is the Entrance and exit of air. The air passes through the Bronchial tubes, then into the air cells expanding them as it enters, thus producing the sound called vesicular murmur, this is the healthy sound, and the one altered or entirely abolished by this disease. The first effect of inflammation is to suspend the secretions, making the part unnaturally dry, this is superceded by a viscid tough secretion poured out by the membrane. Engorgement then is detected by a fine crackling sound, which is said to resemble the crackling of salt thrown on the fire, or the rubbing of a lock of hair close to the ear, between the fingers

The exact seat and nature of this sound has been a matter of some doubt, though most writers agree that it is produced in the minutest air tubes, and is caused either by the passage of air through liquid, or as some think, from the sticking together of air tubes with viscid mucous, the displacement of which produces the sound in question. This sound denotes the commencement of Inflammation of the lungs, and whether it diminishes or increases indicate the progress of the disease. Should this sound diminish or grow less, the malady would soon be relieved and resolution would then have taken place. But most usually nothing of this kind takes place, but instead, all the sounds decrease, no

vesicular murmer, no crepitant rhonchus, but instead a blowing, whistling, cooing sound resulting from air passing into the still pervious Bronchial tubes. The whole part affected has now become perfectly impermeable to air and is no more use for breathing purposes than the liver. This sound is called Bronchial Respiration and gives evidence of serious disease. Were the patient to speak the voice would be transmitted through the solid lung, with so much facility and distinctness as to give rise to the term Bronchophony or Bronchial Voice. Percussion practiced in this stage will no longer give the clear resonant sound as in the healthy lung, but instead a heavy dull sound.

The Lung frequently remains for some time in this last condition, and during the continuance of this degree of disease is a source of much anxiety to the Practitioner, for he can not say certainly that the further spread of the malady will be here arrested. Fortunately in the majority of cases the disease will proceed no further, but will again revert to the first stage, and so to recovery. This however, fortunate termination does not always take place, and then the inflammation proceeds to the third (3) stage, also called Purulent Infiltration. In this degree of the disease the auscultatory signs are the same as in the last described, with addition of Mucous Rhonchus

and gurgling crepitation may be heard; though many cases undoubtedly proceed to this stage without any evidence, auscultatory or otherwise becoming apparent. In the majority of cases the constitutional symptoms lead us to suspect the advancement of the inflammation before evidence is given by the other signs. It is in this stage that abscess may supervene and give rise to very unpleasant consequences.

We have as yet said very little concerning the importance of Percussion, as a diagnostic sign in Pneumonia. This was first brought before the profession by a german Physician named Auenbrugger, and prior to auscultation was

an indispensable aid in making an accurate diagnosis, Even now, when the other science is carried to such perfection, there are few practicioners who would be willing to give up this art. In the first stage of Pneumonia, it is of very little value, for the lung is still filled with air and gives forth the usual clear percussion sound. When however the second stage is forming nothing is more satisfactory than to limit its extent by this means, and thus satisfy the practitioner that the Auscultitory signs are in accordance with those thus developed. We have now spoken of the physical signs mostly in use, and will proceed without further delay to the general symptoms

which usher in a case of inflammation of the Lung. Most patients will tell you upon inquiry that for several days they have felt unwell, have had very little appetite together with weariness and unwillingness to make much exertion; more or less of chilliness and flushes of heat and even distinct rigors not unfrequently the first evidence of the coming disease. Usually pain characterized rather by dullness than sharpness, is felt just under the nipple of affected Lung attend with difficulty of breathing and cough with a very diagnostic sputa.

There is nothing in the commencement of many cases of this disease, which would lead us to suspect the onset of such a

fearfull malady; any inflammation may be ushered in with chills &c and even the prostration of muscular power which is so marked in this disease may take place, though generally not to so great an extent.

The most prominent symptom in severe cases is the Dyspnoea, which is often times excessive and certainly is the most distressing feature of the disease. This is to be accounted for in several ways; either, as much of the lung is involved in the inflammation as to require very much increased respirations to properly aerate the blood, or from pain the chest is not sufficiently expanded to permit the proper dilatation of the lung.

The Dyspnoea is generally a very good criterion of the severity of the case, and improvement or regularity in the respiration denotes a favorable termination of the case. The pain is peculiar both in kind and situation, and as a diagnostic sign is of some importance. Situated, as we have said before, just below the nipple of the affected side it is pretty constant though occasionally felt over the side and posterior part. The implication of the Pleura lining the ribs is supposed to give rise to the symptom under discussion and increases or diminishes as the Pleural Membrane is more or less inflamed. Pain in some degree is present in nearly all cases and is aggravated by cough, change of posture or from percussion

During the first twenty four hours of the disease the cough if present is dry and not until the secretion is in a measure restored does the Expectoration, which is of such diagnostic value, appear. No genuine case of Pneumonia it may almost be said passes through its stages without developing this sign. For the first day the Expectoration may have no other peculiarity than the viscidity and toughness which occur in other diseases as Bronchitis. Soon however upon careful inspection a tint of redness will be discerned, this increases with the disease until the sputa becomes distinctly colored. A yellowness is also manifest resulting from the admixture of blood and mucous. This is described as the rust colored

Expectoration of Pneumonia and is considered by some of itself diagnostic of this disease. In Bronchitis we have the sputa often streaked with blood but any one who has ever seen the well mixed and thorough [illegible] saliva of the disease we are speaking of could have no difficulty in distinguishing it from that of the milder affection known as Bronchitis. By attentively watching the expectoration, we can often determine the state or progress of the inflammation; if the sputa retains its viscidity and the redness increases or does not diminish the Pneumonia is either extending or stationary, but when the viscidity is less and yellowness predominates, we may

generally safely conclude that the inflammation is not extending, and should the expectoration become white, then auscultatory signs of improvement might with great certainty be looked for. When the termination is not so favourable the sputa may not be seen owing to physical inability of the patient. In the third stage of this disease, writers often speak of the "Prune juice Expectoration" this they say when it occurs is diagnostic of this fatal period.

We have now mentioned and dilated sufficiently on Each symptom, seperately; but in practice we must not expect to find these signs and symptoms come one after the other in regular order, for when called to a case of incipient Pneumonia we

will find more or less of fever, dyspnoea, cough and perhaps with every deep inspiration pain in one or other side; and as prominence may be given to any one symptom by existing complication; add to these enumerated signs the Auscultatory phenomina before mentioned and we have the disease denominated Pneumonia.

The Prognosis in this disease must necessarily be doubtful. In a subject of good constitution, not past the middle period of life, with an uncomplicated case of the disease the prognosis may not be expressed favorably. On the other hand where the disease attacks broken down constitutions, persons debilitated by age, or very young subjects, the termination is unfavorable.

To the very young and the very old this disease is peculiarly fatal, few cases in such subjects ever recover. In duration this disease is short, most cases terminating one way or the other in two weeks, the average is said by some to be, ten days. The recoveries in good constitution are rapid, but care must be exercised in moving about and exposure as relapses are particularly dangerous.

The causes of this malady are most frequently exposure to cold following excessive fatigue. Anything, such as loss of rest old age with its infirmities, youth with its susceptibility to cold and natural imprudence, these are the most frequent (Bigus) causes, though many other things as wounds, may light up fatal disease.

We will now without further remarks proceed to the important subject of the treatment of this affection. At the present day two distinct modes of treatment are in vogue. The one called the depletory or depressing plan; the othe the stimulant or supporting treatment. We will first speak of the former, which in this country at least, in the manner taught by them, and that I generally understood, has the most numerous supporters. This consists in the use of the lancet, cups and leeches, Tartarized Antimony and Calomel.

The use of blood letting was naturally suggested to the minds of the earlier Physicians, the disease Pneumonia, in its character Essentially inflammatory, the obvious remedy would be such as would deprive

the disease of its food, thus by removing the fuel extinguish the flame - The practice of bleeding in Pneumonia became as common as giving Quinine in Periodic Fevers; so soon as the disease was fairly made out. the lancet was brought into requisition and blood sometimes to an enormous extent was allowed to flow, this was frequently repeated several times during the course of the disease. This practice at that time may have been to a certain extent allowable and a fair proportion in comparison with other methods of treatment recovered, though the convalescence was remarkably tedious. At the present time bleeding from the arm. is used in but few cases, where the patient is robust and young, accustomed to

active out door exercise bleeding may no doubt prove salutary and in this class of patients most Physicians agree in the necessity for using this remedy. Some practitioners wholy proscribe this weapon in the combat, and will speak disparagingly even of cups & Leeches. The abstraction of blood in this method is most generally sanctioned by the Medical fraternity. The relief often experienced by the patient on the abstraction of a few ounces of blood by this method, is proof sufficient of the efficacy of this treatment. Leeches in more delicate patients are equally useful. Cups applied without the abstraction of blood often afford great relief to the patient. It may then be understood that patients seen early may require depletion by the Lancet, but in the

great majority of cases blood taken by cups and leeches will suffice. In some case blood taken in any way is absolutely injurious. We must never bleed because the disease is Pneumonia, unless the existing symptoms indicate the necessity of such practice; bloodletting would most certainly prove at least an equivocal remedy in the majority of cases of this disease, as they appear at the present day.

The use of Tartarized Antimony in this disease dates back some time, and though it has had its opponents and even yet has bitter enemys, still at the present time no one remedy is more universally employed and none which the Profession would not sooner sacrafice.

The Physicians of Italy have the credit of first employing this remedy in Pneumonia. from thence it has spread over all the civilized world. Some of them have been in the habit of employing it in enormous doses increased gradually, so as to prevent vomiting. It is used principally in the first stage of the disease and if pushed to its full effects, nausea, and maintained in this degree for a sufficiently long period of time, will frequently supercede the necessity for blood letting. If used in the later stages of the inflammation the prostration occasioned by the medicine in conjunction with the extreme debility naturally present, will make an unpleasant diversion both for the patient and Physician. Tartar Emetic when used carefully and

under intelligent medical supervision is one of the safest articles in the Materia Medicae. In children unusual precaution must be observed and indeed in many cases must be wholly abolished. At times, and in some of the cases seen, this remedy seems to have complete control. The inflammation is subdued and the other symptoms yield with apparent readiness, the illness is short and the convalescence speedy. Tartar Emetic is usually given in small doses. When the patient is seen early the medicine may be given in half grain doses and repeated until free emesis takes place. This will be repeated or not according to circumstances. When the first four days have passed vomiting should not be desired, but a state of nausea.

Many prefer that the medicine shall not act violently, thinking that the inflammation is easier controlled by this method of administration. It has the advantage over bloodletting that it is seldom contraindicated by any existing debility, for with proper precautions the drug may be so administered that good will in the majority of cases result. We may then conclude that as a remedy this holds as high, if not the very highest position among the medicines employed.

The use of Calomel in this as well as many other diseases is very much lauded. It has such powerful influence over the secretions and such control over many inflammations that it has many supporters.

When the other remedies enumerated have been used and still the inflammation has not been subdued, mercury given in small and repeated doses until the gums of the patient have been effected, has been found of great utility.

Opium is given with considerable caution in this disease as the blood is but imperfectly oxygenized there is danger of rendering the symptoms unintelligable. The relief afforded when the patient has been without sleep for several nights is often very striking and, induces us if not prepared upon sound principles to reject the practice, to employ it with little reserve.

Counter irritation with blisters over the lung diseased is of great value and often

affords the most prompt and immediate relief. This plan of Counter irritation is to our mind one of great utility and insures more Ease and comfort to the patient than many other more vaunted means of cure.

These are the principle Medicines used in the treatment of this disease. When carefully and judiciously administered a fair number recover under this treatment, and it is only where previous conditions either of age or condition render the complications particularly unfortunate that these remedys are not equal to the cure of this disease.

During the last few years a class of Physicians have come into Existence who look upon all inflammatory conditions

as demanding the use of stimulants in greater or less degree. Pneumonia has been one of the principles arenas for the exhibition of this new method, the debility generally present seeming to invite a trial of this remedy. It is hardly possible or even proper at this recent date to speak positively of the results of this treatment. Most experienced observers deprecate the administration in all cases of this Alcoholic stimulus; while they admit its occasional beneficial influence, yet used indiscriminately it can not but prove injurious in very many cases. The happy mean, between those who would exhaust their patient by depriving him of the eliment of life, the blood, and the other

by employing Alcoholic poison. render the vital fluid incapable of responding prop-erly to the nervous demands.

We may thus Sum up briefly that no disease, Pneumonia not excepted, should have its treatment thus mapped out. It has been said hundreds of time, but not acted upon, treat the Symptoms as they arise. In the early stage nauseants may be indicated and usually if admin-istered prove serviceable; likewise when debility from any cause whatsoever arises, stimulants should unhesitatingly be employed.

We have now spoken of the most gen-eral methods of treatment resorted to in this disease. Many points from various

cases have not been much dilated upon. To mention every thing which has been some time or other of service in this disease would require more time than we have to spare. The remedies we have mentioned if used with skill and judgment will generally suffice to carry the malady to a happy termination —

Yours &c.

I. H. Billingslea
Balto. Infirmary
Md

1864

An Essay on Anaemia

Respectfully Submitted

To the Honourable

The Regents, Provost and

Faculty of the

University of Maryland

by

Gustavus C. Lohme

Baltimore

Maryland.

Anaemia.

The word means literally blood-lessness but in reality relates more to deficient quality than quantity of the circulating fluid. Before proceeding to give the symtoms and treatment of this disease it would appear best to describe the general character of the blood and the effect it performs in the human economy. The blood in anaemia cannot with help filling up the motion vessels which contain it but it is wanting in the most highly organized, the most truly living of its constituents: it is pale from the diminished number of these floating red globules which give it natural hue. The supply of

red globules is by far the most im-
portant portion of the blood. It is
the general circulating fluid of
the animal body, the source of all
nutriment and growth and the
general Material from which all
the secretions, however much they
may differ in properties and com-
position, are derived. Food or
nourishment from without can
only be made available by being
first converted into blood; it was
also the scarcely less important
office of removing and carrying
off impurities from the body to be
discharged, or no longer required.
In all cultivated animals the blood

has a red colour and probably in all cases a temperature above that of the medium in which the creatures live, the heat of the blood is directly connected with the degree of activity of the respiratory process. In man the temperature of the blood seldom varies much from 98° Fahr. when in a state of health even under great vicissitudes of climate. In every creature of this description two kinds of blood are met with which differ very considerably in their appearance - that contained in the left side of the heart and in the arteries generally, and that contained in the right side of the heart and in the

veins, the former or arterial blood has a bright red colour the latter the venous blood is blackish purple. Further the conversion of the dark into the florid blood may be traced to what takes place during its exposure to the air in the lungs, and the opposite change takes place in the capillaries of the general muscular system, or in the minute tubes or passages distributed in countless numbers throughout the whole body, which connect the extremities of the arteries and veins. When compared together little difference of properties or composition can be found in the two kinds of

blood; the fibrin varies a little; that from venous blood being soluble in a solution of Nitrate of potassa which is not the case with the arterial fibrin. It is very prone to absorb oxygen and it becomes (in all probability) partly changed to the substance called Binoxide of protein, which no doubt exists in fibrin of arterial blood. The only difference is in the gaseous matter the blood holds in solution, carbonic acid predominating in the venous and free oxygen in the arterial variety. Its specific gravity varies from 1.050, to 1.057, is alkaline to test paper, has a saline disagreeable

taste, and when quite recent a
peculiar odour which admits imme-
diately disappears. An odour may
however afterwards be developed
by an addition of sulphuric acid
which is in some considered charac-
teristic of the animal from which
the blood was obtained. To the naked
eye the blood appears a homogeneous
fluid, but it is not so in reality. When
examined by a good microscope it
is seen to consist of a transparent
and nearly colourless liquid in
which float a countless multitude
of little round red bodies to which
the colour is due: these are the blood-
disks or blood corpuscles of Micro-

scopic observers. They are accompanied by colourless globules known as lymph, the white corpuscles of the blood. The coagulation of the blood effects a kind of natural proximate analysis; the clear pale serum or fluid part is an alkaline solution of albumen, containing various mineral salts; the clot is a mechanical mixture of fibrin and blood-globules swollen and distended with serum of which it absorbs a large extra-ordinary quantity. The following table represents the composition of healthy human blood as a whole, it is on the authority of Dr Lehmann.

Water . . . . . 780-15.

Fibrin	2–10.
Albumen	65–09.
Colouring matter	133–00.
Crystallizable fat	2–43.
Fluid fat	1–31
Extractive matter of uncertain nature soluble in both water and alcohol	1–79.
Albumen in combination with soda	1·26
Chloride of sodium & potassium	
Carbonate of lime and fluor-spar,	
Phosphate of lime, Magnesia & iron, Sesqui-oxide of Iron	2–40
Carbonates & Phosphates and Sulphates of Potassa and Soda	8–37
Loss	2–40
	1,000–00.

Respiration is performed by the agency of the muscles, which lie between and about the ribs and to the diaphragm the lungs are alternately emptied of air at each expiration. Under ordinary circumstances about six cubic inches only are thrown out, while by forced effort as much as 50 to 60 cubic inches may be expelled this is repeated about 18 times per minute, when the individual is undisturbed. The expired air is found to have undergone a remarkable change; it is loaded with aqueous vapors with a very large proportion of oxygen has disappeared and its place then supplied by carbonic acid. The

total volume of the air seems to undergo but little change in the process, the carbonic acid being about equal to the oxygen lost. The oxidation of combustible matter in the blood is effected in the capillaries of the whole body, not in the lungs, the temperature of which does not exceed that of the other parts. The oxygen of the air is taken up by the lungs and carried by the blood to the distant capillary vessels, by the aid of which the secretions and all the mysterious functions of animal life are undoubtedly performed. Having briefly explained the composition and general state

of healthy blood, I will now take up the subject of anaemia or bloodlessness, which term means, as before stated, a deficiency of the discs in the blood. The word has been objected to by some writers because it has been supposed to imply etymologically that there is a deficiency in the actual quantity of circulating fluid, of which deficiency in quantity there is no proof; and by some writers Spanaemia or thinness of blood has been proposed in its stead. In reality there is no occasion for fault finding. Anaemia by the analogy of greek etymology does not mean deficient quantity.

now in the blood the physician traces proof of the manner in which constructive metamorphosis are carried on; he finds out through certain unmistakeable symptoms the deficiency of the most important constituents of the blood - the red blood discs - showing plainly a deficiency of it. Whether the supply of blood is too small, or its assimilation is defective, in both cases, either absolutely or relatively, to the existing demand. In many instances it is easy enough to lay the finger upon the organ of life which is to blame. We can detect without difficulty the causes

at work - starvation, which any body can understand leads to an absence of the organic matters made out of blood; disease of the stomach, in which the aliments are not prepared for assimilation; disease of the liver and duodenum, producing the same result; disease of the intestines or their glands refusing to take up adipose matter especially, and so preventing cell-growth; disease of the spleen or lungs which physiological experiments, independent even of our observation of morbid phenomina, show to be answerable

for the formation of new blood discs in a way yet unknown; mental derangements, care, disappointment which so readily arrest the activity of the assimilating viscera, - these agencies, and many more, are readily comprehended as causes of anaemia, yet there seem to be cases where nothing tangible of this sort is to be made out. Where the paleness of the blood is seen in the face, lips, tongue or in a drop taken from a pricked finger, and evidenced by faintness, weakness, palpitation, anasarca, amenorrhoea, etc, are even more marked than

where demonstrable lesion is to be found. The loss of the constituents of the body, which are of a nitrogenous chemical composition, is more marked than that in the hydro-carbonaceous fat; the reason is partly that the destruction of adipose vesicles is somewhat concealed by the saturation of the tissue with serum, which gives it a false plumpness; partly that fat being absorbable without much (if any) alteration, is easier taken up than fibrine or albumen, which require a chemical solution before they can be absorbed. As Andral has analyzed the

blood of a patient with anaemia, when the blood globules amounted to less than 39 parts in 1000, whereas their natural proportion should be at least 120 parts in 1000: more than 2/3 rds of this constituent was missing and yet the patient was living and moving and very likely quite convalescent in the end, if nothing but rational treatment was adopted. Now in pure anaemia there is not found any degenerated, devitalized substance; the missing globules have not changed into a lower life, so that their remains or debris should constitute foreign matter

matters; but they have been used up in the regular way and have supplied materials for the tissues, as they are formed from day to day, at the same time there has been a deficient renewal or supply, an arrest of that continuous development of blood, which is necessary to complete life. This defective supply of the materials of growth weakens the vitality of many of the formative and excreting viscera, hence in case of anaemia we often find that the liver is not so lively as it should be and some of the colour it ought to get rid of stays in the circulation or exudes and stains the skin of a

bilious one, or perhaps the kidneys are deranged and the urea which should be drained off is kept, causing very serious derangement of health; or again, anaemia may so depress the creative power of the blood that instead of the body being built up with elastic and living material, it has to put up with a comparatively little substance called fibrin. The blood in anaemia is found to be very thin and watery, when it is drawn from a vein it readily coagulates and forms a very small contracted clot usually coated with a buffy coat. This appearance which is commonly

erroneously ascribed to inflamation is probably due, as Andral surmised, to a predominance of fibrin over the red corpuscles, for these are diminished much more than the fibrin, being in some extreme cases reduced to 1/5th of their natural amount. The albumen is also generally scantier than usual. Although the symtoms of anaemia are chiefly those of great weakness or depression; there are often others of an opposite character indicating irritation or exaltation of function as for example pain in the left side and epigastrium, nausia colic and diarrhoea, which may

be traced to the weak digestion leading to the production of irritating matters out of the food which has been used for nourishment. In opening the head a small quantity of serum is found under the arachnoid and in the ventricles sometimes with a little lymph, the membranes are remarkably vascular but the vessels most distended are the veins, and in the larger of these as well as in the longitudinal sinus there is a firm coagulum in places, especially at the torcular hirophili. This coagulum blocks the whole sinus the fibrin being separated from the other constituents and portions of

it softened down into that opaque, purulent matter which was long mistaken for pus but which its Guerin has shown to be merely such a disintegration as stagnation is in a warm temperature is able to effect, and is precisely somewhat of the nature of fatty degeneration. Such cases have been mistaken for instances of meningitis; the fibrin itself does not diminish in proportion with the other constituents and since anaemic blood coagulates sooner than good blood. Emaciation is not a constant result of anaemia and it is not an unusual thing to see the most pallid subjects (espe=

cially females) fat. Dropsical effusion into the cellular texture is a common result of anæmia, when either long continued or aggravated by additional causes of disturbance to the circulation; and slight inflamation of the mucous or other serous membranes, too, speedily produce copious exhalation into the cavities. Anæmia although ordinarily amenable to treatment may yet in a protracted form prove a formidable disease, or it may be suddenly fatal through syncope induced by some exertion or additional cause of excitement, or it may more gradually lead

to death by asthenia, or general failure of vital powers, often attended with anasarca or by developement of tubercle or other cachectic disease to which the individual may be predisposed; or by slower and less marked changes brought about in the nervous centres, and ending in paralysis, insanity, and Epilepsy. The general symtoms of anaemia are weakness, muscular weakness evinced by the faintness, breathlessness and fatigue following upon exertion or exercise; weakness of the heart shown by the feeble thready pulse rendered

very frequent and palpitating by slight exertion, or change of position and often becoming irregular and failing afterwards, faintness of the whole circulation manifest in the coldness of the surface of extremities, general weakness shown by the loss of appetite, indigestion torpor of the bowels, scanty and disordered secretions defective nutrition, especially of the muscular parts; and imperfect sanguification, for the blood that remains in the system is diseased being poor and watery and small as scanty. In the treatment of this disease it is of the utmost importance

to remove the causes, while these continue to act the use of remedies will be of only temporary benefit. Should the digestion be disordered it must be corrected; constipation must be avoided; any hemorrhage or other drain which may exist must be arrested. Moderate exercise or labor taken in the open air is of great benefit, and the sleeping apartment should be large and airy - and the ill effects of irregularities of temperature should be prevented by strengthening the skin, and by invigorating the general system and health by introducing as much as possible a large amount of nitro-

genous food such as milk, butter, eggs etc. Iron is required to supply the red blood discs. One of the best and easiest preparations of iron is the well known Mistura Ferri = aromatica composita of the London Dublin and Edinburg Pharm. also the United States.

Rp.

Pulv: g. Myrrhae ʒij.
Potassae carbon. ʒj.
Aqua Rosae ℥viij.
Ferri Sulph: cryst ℈iiss
Spirit Myristicae ℥j.
Sacchari albi ʒij.

misce secundum artem.

The united states dispensatory

recommends the following formula.

Rx.

Pulv: g. Arabicæ ℥i.
Potassii carbon. gr. xv.
Aquæ: Rosæ ℥viii.
Ferri: Sulph: cryst ℈i.
Sacchar albi ℥i.
Spts. Lavend: comp. ℥ss.

The dose is one or two fluidounces three or four times a day. Of course acid and acidulous salts as well as all vegetable astringents containing tannic or gallic acid, are incompatible with it. Large doses of the more soluble salts of iron have an effect on the mucous membranes which prompts

them often from being taken up and also assists digestion to some extent, evidence of the latter is found in cases of gastritis and gas- [illegible], and also of their reactions in the [illegible] of the [illegible] much more than by the formula above mentioned. I find that the material which is prevented from decomposition by the sugar and the finely divided oxide + carbonate diffused through the thick liquid were particularly easy of solution in the water saturated with salts and carbonic acid, which is the solvent with which it must be done. These actions are of great benefit, depending

however act generally on the system which, as in all these affections, must be pure and healthful. Chloride of sodium is a necessary article. Chlorine in the shape of hydrochloric acid has been used as a tonic, also inwardly in combination with sesquioxide of iron in the well known preparation of the United States Dispensatory, Tinctura ferri sesqui-chloridi. Amongst the purgative medicines [illegible] efficacious [illegible] do service by cleans-ing the system and stimulating the vital organs; amongst these mentioned are gamboge, sulphate of magnesia, calomel, mercury, etc. Amongst

the number of more useful remedies are mentioned Rhubarb and aloes, the latter particularly has given most satisfaction, it contains a soluble active principle called aloine by some supposed to be an alkaloid but all personal experiments have convinced me that it is more like an active neutral principle which varies considerably in property and appearance in the different species of aloes, and hence can hardly be called an alkaloid; it does not form salts with the mineral acids and is neutral to test paper. Its medicinal property is bitter tonic and the purgative power

resides in its insoluble resin. Its action is very slightly stimulating; in moderate doses it only augments the solid brown excretion of the colonic glands and produces faeces lenient or mild and of consistent form, while at the same time it restrains by its bracing bitter the formation of mucus. Its action is seen on moist piles; it dries them up and makes them smart; and therefore we can easily judge how it acts on the gastro-intestinal mucous membrane and at the same time by the mere peristaltic action and by the solid mass passed along the gut the ne-

-ready existing mucous is cleared
away. Strychnine is often com-
bined with Iron. This remedy ex-
hibits a power over muscular fibre,
by restoring regularity of heart
and general system. Digitalis is
given in small doses when there
is much palpitation of the heart
after slight nervous excitement
etc. It should not be used longer
than necessary as it acts as anaes-
thetic on the cardiac nerves; its
benumbing effect extends along
the whole pneumogastric nerve
and reduces the appetite and
produces nausea. Other bitter tonics
have been combined with Iron such

such as columbo cascarilla quinia
sodine, to give tone to the stomach
and equalize circulation and
to prepare the stomach and general
system for more powerful treatment.
The success of the treatment of anae-
mia becomes manifest not only in
the return of a healthy colour to the
lips and skin of size to the super-
ficial vessels, and of strength to
the pulse, but also by an improve-
ment in all the functions breath
strength digestion etc. Diffusible
stimulants as carbonate of ammonia,
valerian sumbul ether wine
and spirits are sometimes used in
peculiar cases. When great nervous

depression is manifest. Symptoms of nervous excitement are allay=ed by the sedatives as hydrocyanic acid, Belladonna, Conium, Hyoscyamus Stramonium etc.

1864

An

Inaugural Dissertation

on

Chorea

Submitted to the Examination

of the

Robert Medical Faculty of Physic

of the

University of Maryland;

For the degree of

Doctor of Medicine

By

G. Ferry Waines

of

Maryland,

[illegible] [illegible] the disease is [illegible] [illegible]

[illegible] [illegible] [illegible] [illegible] [illegible]

[illegible] [illegible] [illegible] [illegible] [illegible]

[illegible] [illegible] [illegible].

The internal muscles of the mouth and fauces may, and frequently do participate in the [illegible] action. [illegible] [illegible] the patient to put [illegible] [illegible] [illegible] [illegible] many attempts [illegible] [illegible] before it can be accomplished, and then it is suddenly thrust out, and as suddenly drawn in. The patient stammers or hesitates in speaking. In violent cases even deglutition [illegible] [illegible] [illegible] [illegible] [illegible].

[illegible] tetanus [illegible] as much, as in

distant or even, what [illegible]
[illegible] were made in regard to
the cause and nature of the
disease, after death many path-
ological lesions were found.
Some find them in
one place, some in another.
[illegible]
[illegible]
brain in the dead body to
discover the nature of Chorea.
We are told that it
[illegible] now well we are
posted in anatomy, in order that
[illegible]
we can get no positive evidence
of the nature of chorea.

[illegible] derangement [illegible]

derangement of every part lying

running between the cerebral hemispheres

and the [illegible] [illegible] [illegible]

[illegible] [illegible] [illegible] [illegible]

the patient [illegible] [illegible] [illegible]

[illegible] frequently attacked [illegible] [illegible]

According to my own

opinion based [illegible] [illegible] [illegible]

experience of different authors is,

that [illegible] [illegible] [illegible] [illegible]

diseases of an exhaustive character,

which [illegible] [illegible] [illegible] [illegible] [illegible]

[illegible] [illegible] and [illegible] [illegible] [illegible]

[illegible] [illegible] [illegible] [illegible] [illegible]

depressing and draining influence

upon the system produces anemia,

[illegible]

[illegible] more susceptible to the excite[illegible] [illegible] of chorea. Duration of chorea [illegible] uncertain. It may continue for weeks, months and even years. But with proper treatment and care, may be arrested in six or [illegible] [illegible].

It is generally found [illegible] [illegible] in climates of [illegible] temperature, in the [illegible] year [illegible] the weather is warmest.

It is frequently complicated [illegible] [illegible], [illegible] and [illegible], but still holds its independence of organic lesion.

[illegible]

[illegible]

of puberty are often ushered [illegible]
by the menstrual discharge.

The influence of [illegible]
other previous disease is another
very great cause leading to the
[illegible]
[illegible]
[illegible]
[illegible]

The diagnosis is very
[illegible]
and the rigid irregular contractions
of the muscles, with the par-
tial control which the will has
over these irregular movements
[illegible]

to the muscles of one arm, or of the head, and especially when occurring in the adult, he had never seen it cured.

The treatment of Chorea is variable. Every writer has his own treatment. Yet they all aim at the same grand object.

The two great indications are in first place to eradicate any [illegible] purging malady which tends to increase the nervous excitement. Secondly to give stability to the [illegible] centres.

Now using the metaphorical phraseology of Watson. "The indications

. not often anyone, but it is mechanical, jangling, and out of tune; and we can often relieve the [illegible] by [illegible] it up again. [illegible] [illegible] of the [illegible] treatment [illegible] be [illegible] [illegible] to take up [illegible] [illegible], I shall [illegible] [illegible] [illegible] [illegible] treatment as I think requisite to meet the above mentioned indications.

For the first indication [illegible], and [illegible] [illegible] [illegible] to infer that worms in the intestinal tract is the cause of the disease anthelmintics should be used.

In all cases the bowels should be thoroughly opened with

[illegible] [illegible] [illegible] [illegible]
which improved for a few days,
but was ultimately followed with
irritability of the bowels, and finally
with [illegible] of the [illegible] [illegible];
which must have been in conse-
quence of the administration of
the [illegible].

Our esteemed Professor
Dr. Samuel [illegible] recommends the
following treatment. Thorough
purgation with calomel and
rhubarb, some preparation of iron
a Tonic, good nourishing diet,
[illegible] [illegible] to stimulation, and ex-
ercise in favorable weather, with
an infusion of Cimicifuga to

[illegible] at intervals during the

Course of the disease.

This I think the

[illegible] of treatment, and the one

[illegible]

edge of Physic should meet the

[illegible]

[illegible]

[illegible]

[illegible] you for the thorough, and [illegible]

[illegible] so kindly and [illegible]

[illegible]

G. H. Gaines

Maryland

Feb. 10th 1864

a

Report of Surgical Cases

Submitted for the Examination

of the

Board, Regents and Faculty of Physic

of the

University of Maryland

for the

Degree of Doctor of Medicine,

by

A. H. Coyle.

February 12th 1864

Gentlemen,

I have the honor to submit for your examination the following reports made from my own observation in the U.S. Army General Hospital York Pa. during the Summer of 1863, with an apology, that so much of my time being occupied at the hospital where I am at present on duty, I cannot make the correction I desire for this.

I have the honor to be
Very Resp.ly Yours
A. W. Lodge

To the
Provost, Regents and Faculty
of
University of Maryland

Daniel Crebbs Private Co. D. 1st Regt N.Y.

Was wounded at the battle of Gettysburg July 3d 1863 by a conical leaden bullet entering left foot under great toe, passing obliquely outward and backward making its exit at the tarsal articulation of the fifth metatarsal bone comminuting the bones in its course. States that several pieces of bone were removed at date of injury, that he had some fever and considerable constitutional disturbance. Foot swollen and painful. Treatment antiphlogistic, locally cold water dressings. Came under my notice August 8th thirty six days after receipt of injury at which

time wound entirely cicatrized. Two days after (Aug 11th) began to be inflamed and painful, soon ulcerating and assumming a gangrenous condition, the surrounding ~~sloughing~~ tissues sloughing extensively.

Treatment tonics and good diet, with local applications of Bromic acid, after which parts were washed with a diluted solution of chlorinated sodae, and poulticed with yeast and charcoal. This treatment being pursued for five days, the Bromine being applied every alternate day; at the end of this period sloughing had ceased, sore became clean and healthy

and soon commenced to granulate. Sore was then dressed with Ceratum resinae at first and afterwards with Ceratum Simplex - September 26th 1863 wound of entrance is closed and that of exit open and discharging an ill-conditioned pus - Foot is enlarged to twice its normal size, skin tense and shining, a livid hue, firm to the touch and not pitting on pressure. There is doubtless some diseased bone in the foot and a small amount of new osseous deposit; but the hardness and firmness of the parts I attribute to organized lymph. I have seen repeated instances

when this condition remained for many months. I believe this to be caused in many cases by the excessive and prolonged use of cold water dressings. The member being situated so far from the centre of circulation will not bear the seductive effects of cold as will other parts of the body where the flow of blood is more active. By thus continuing the use of water dressings too long, the skin becomes macerated, the surrounding tissues soft and flabby and the proper flow of blood is interrupted. In this manner the natural power of absorption is reduced and the organized fibrin

remains blind and deaf for a long time.

R. W. Hamlin Priv. C. 4th Regt. U.S.A. was wounded at the battle of Gettysburg July 1st 1863 by a conical leaden bullet entering at upper portion of left ear, passing obliquely downward and backward emerging two inches to left of spinous process of fifth cervical vertebrae, six inches from point of entrance, passing through the auditory canal and fracturing the most dependent portion of mastoid process in its course.

Patient states that he remained in a comatose condition for two days after receipt of injury, following which suffered [illegible] pain

in ear with more or less constitu-
tional disturbance. Received a gen-
eral antiphlogistic treatment with
local applications of cold water.
(Aug. 22d 1863 wounds of entrance
and exit are closed. He is under no
treatment. There is partial paral-
ysis of the muscles of left side of
face, opens his mouth with, not
difficulty and to the extent of an inch,
requires considerable effort
to protrude the tongue. General
health good. I attribute the paral-
ysis and its accompanying symp-
toms to an injury of the portio
dura of the 7th pair of nerves at its
exit at the mastoid foramen.

Rodell Packard Priv Co F. 17th Regt.
U.S. Infantry was wounded at
at the battle of Gettysburg July
2d 1863. by a conical leaden bullet enter-
ing at Triangular space of left scapu-
la passing horizontally upward
and forward lodging under the
deltoid muscle one inch below
acromion process right side,
whence it was cut down upon
and abstracted July 7th 1863 five
days after receipt of injury.
I state that he expectorated several
mouthfuls of blood at the time.
Treatment antiphlogistic with
simple water dressings. Came
under my observation August 1st

.2. pale and emaciated eyes dull and sunken, no appetite, tongue brown and dry, pulse 100 quick and feeble. The sound of entrance is closed and that of exit is open and discharging. Coughs much and expectorates pus and mucus. Exhibits several pieces of bone which he states he has "coughed up". During the act of coughing the air from the lung passing through the orifice of exit and expels the discharge several feet. The right side of chest is sunken to a considerable extent. Is marked dullness on percussion. By auscultation I discover a prolonged

expiration at the top of the right lung and a puerile respiration at the top of left lung.
Treatment tonic and slightly stimulating with a good nourishing diet. Locally simple dressings. The pieces of bone expectorated are doubtless portions of the scapula which had been driven into the lung by the ball. September 26th 1863 at which time my observation of the case ended, he was improving and will doubtless recover with whole or partial solidification and loss of function of right lung, as cases of a similar character frequently do.

Wm. Thompson Priv. Co. F 4th Regt.
New York S.V. was wounded at the
battle of Gettysburg July 2d 1863
by a minie ball entering at
last cervical vertebrae passing
upward, forward, and outward
emerging on left cheek one
inch above angle of jaw.
On being struck fell helpless
to the ground with a feeling of
numbness in arm and
shoulder. Cold water dressings
were applied. August 23d 1863
wounds of entrance and exit
are closed. Left shoulder is
1 inch two inches lower than
the right, the traumatism

muscle is atrophied and flabby, as is the left arm also. A portion of the sterno mastoid is is detached from its insertion and adheres to the cicatrix at angle of jaw. The clavicular portion of the pectoralis major is contracted and draws the shoulder forward

Wm G. Cunningham Pvt. Co. H. 44th Regt. N.Y. S.V. was wounded at the battle of Gettysburg July 2d 1863 by a conical leaden bullet entering behind left mastoid process passing directly upward lodging one inch from point of entrance chipping the bone, whence it was

received the next day after the
receipt of injury. Remained
eight days in a comatose con-
dition. Treatment antiphlogistic
and locally cold water dressings
August 24th 1863 the wound is nearly
closed and discharging a small
quantity of pus. Has headache
daily from 8 A.M. to 2 O'clock P.M.
Bowels regular, Appetite good doing
well.

C. H. Hill Priv. 2d N.Y.S.V.
U.S. was wounded at the battle of
Gettysburg July 2d 1863 by a
minnie ball entering anterior
aspect of upper 3d right thigh

and passing directly through the voluminous muscles of this region, without implicating the bone. Wound healed kindly by the use of cold water dressings (August 11th 1863) and was entirely cicatrized and could use the limb as well as before the injury. Ten days after (August 21st) cicatrix became painful and inflamed, the parts of a livid hue, a serious festering in the centre; soon after the surrounding tissues became gangrenous and sloughing ensued until a space four inches in width by six in this in length was involved; the edges of the

ragged and rough and the bottom covered with a brownish caco-plastic lymph. Patient feverish, weak and pebble tongue dry, no appetite, and has considerable diarrhoea. Treatment - Iron and Quinine with four oz. Spts. Frumenti daily. Local applications of Bromine Acd. after which a solution of chlorinated soda, and poultices with yeast and charcoal. This treatment being continued five days, the Bromine being applied every alternate day. At the end of this time the sloughing had subsided and healthy granulations

appeared doing well -
August 20th 1863 wound is heal-
ing very fast, has no fever
or diarrhoea, appetite improving,
Quinia and Whiskey discontinued
and is taking Tr. Ferri Chlor. gtts X
ter in die. Using local application
of Unguentum Resinozum - Sept. 26th
1863 wounds entirely healed and
patient is walking. The diarrhoea
which occurred in the course of this
case is attributed to the septic matter
being taken up by the capillaries
about the wound and excreted
by the bowels.

While on duty at the U.S.A. Gy

General Hospital York Penn'a during
the Summer of 1863, there were
admitted - July 4th 5th & 6th from
the field hospitals of Gettysburg 800
badly wounded men. Cold water
dressings were principally used and
all the wounds improved in their
condition unusually well until the
11th day of August - on which
admission. At this date nearly
one half the wounds in the wards
commenced to be painful and
inflamed, and soon gangrene
and sloughing would ensue.
I attribute this so called hospital
gangrene, every case dating its
appearance from the same day

to some atmospheric change; for every precaution was taken in regard to the use of sponges &c the wards were well ventilated and the general hygienic condition of hospital well and carefully attended to.

In the treatment of this, and and similar cases I have had ample opportunities to observe and judge of the efficiency of almost every remedy recommended as a local application for hospital gangrene; and in none have I witnessed such beneficial effects as from the judicious use of Arsenic Acid. It arrests

ficer and promotes the speedy separation of the dead from the living tissue, thus arresting the sloughing process.

The manner in which we were in the habit of applying this agent was by inserting a small map into the bottle of the acid and allowing its fumes to penetrate the diseased tissue and in severe cases by applying the acid itself immediately to the part

An Inaugural Dissertation,

on

The Human Encephalon;

Submitted to the Examination

of the

Provost, Regents, and Faculty of Physic

of the

University of Maryland

for the

Degree of Doctor of Medicine,

by

E. Miller Reid of Maryland.

Baltimore, Febry 6th, 1864.

We find the term Encephalon to be derived from the Greek εν, in, and κεφαλη the head thus literally meaning in the head; but in the general acceptation, the contents of the cranial cavity, which are the cerebrum, cerebellum, and medulla oblongata, with their investing membranes.

The cerebrum, or great brain, is the large oval mass of cineritious and medullary matter occupying the upper and principal part of the cranial cavity, and presenting on its surface a number of convolutions, or slightly convex elevations, separated from each other by numerous depressions or sulci of various depths. It is divided superiorly by a deep fissure into two equal parts, or hemispheres; each of which

consists inferiorly of an anterior middle and posterior lobe. Situated between, and connecting the two hemispheres, is the corpus callosum, a great commissure, which is a broad layer of medullary fibres, running transversely, and becoming blended with the substance of the two hemispheres. Its inferior surface forms the roof of the lateral ventricles; it is also blended posteriorly with the fornix, and in front gives attachment to the septum lucidum; behind it is posterior rounded border is the transverse fissure of the cerebrum, extending on each side from near a deep fissure (fissura Sylvii) between the two hemispheres, and ending anteriorly in the same fissure on the opposite side of the

brain. Assisting to form the inferior boundary of this transverse fissure are the corpora quadrigemina, or optic lobes, which consist of two pairs. The anterior are of a grey color and unequal sized; the posterior are white and smaller than the anterior, and are termed testes. From each of these pairs are given off processes which pass into the Tuberculi optici.

Beneath the great commissural corpus callosum are the lateral ventricles, which are two irregularly shaped cavities, occupying and extending from one extremity to the other of the interior of the two hemispheres, and resulting from the contact of the surfaces of a series of layers. They are separated by two thin lamellæ of white sub-

stance (septum lucidum) between which is a fissure termed the fifth ventricle. Each lateral ventricle is divisible into a body or triangular cavity, and three angular depressions called cornua. The bodies are bounded above by the great commissure; internally by the vertical partition of the two ventricles; and below by a series of parts which will now be noticed. Anteriorly, the first are the corpora striata, or superior ganglia of the cerebrum, which are two grey-looking bodies of pyriform shape; their bases being forward and inward rest against each other; internally, they are composed of grey and white substance, so intermingled as to produce a striated appearance,

whence their name. Posterior to these bodies, and extending obliquely across the lateral ventricles are two vascular membranes partaking of the nature of the pia mater (of which they are a part) and communicating with each other through an oval opening (foramen Monroianum;) they also dip in, and help to form the inferior walls of the middle cornua. Between the superior ganglia, or corpora striata, are two oblong bodies, consisting of medullary and grey matter; these are the thalami optici, or inferior ganglia of the cerebrum, inclosing between them a narrow cavity or fissure, which is the third ventricle (which ventricle is crossed by three commissures between which are

found several foramina). The thalami are partially united by a commissure composed of a soft gray substance; posteriorly, and inferiorly they form the walls of the descending cornua, and also present several prominences (corpora geniculata externa et interna, the former of which are regarded as the principal origin of the optic nerves.) Along the inner margins of the thalami arise a couple of medullary cords, which pass backwards to two small conical bodies, the pineal glands constituting their bonds of connection with the brain. Extending along the posterior borders of the superior ganglia are two thin fasciculi of nervous matter which connect these ganglia with the

thalami optici. Beneath the corpus callosum, and extending over the third ventricle is a triangular lamina of substance, the fornix, which is narrow in front and terminates in two crura, which curve downward at the base of the brain, where they make a sudden curve upon themselves, forming the corpora albicantia. Superiorly the fornix forms an attachment for the septum lucidum, and at its posterior extremities gives off at each angle a thin flat process which passing into the middle cornua ventriculi, constitute in forming their inferior walls and are known as the corpora striata, beneath each of which is a layer of gray matter of a serrated appearance, hence called taenia

dentata, which also assist in forming the same walls. Next the angular depressions or cornua, the anterior of which are triangular in form and terminate in the anterior lobes; the posterior curve inward and terminate in and near the surface of the posterior lobes; into each of these cornua is a slight projection of substance called hippocampus minor. The middle or descending cornua are the largest, and change their direction several times in their course, and having curved around the crura cerebri terminate near the fissure of Sylvius; they are bounded superiorly by the under-surface of the thalami optici; inferiorly, by a number of parts: first, the hippocampi majores, which are projections

given off by the longitudinal commissure and extend the whole length of the middle commissure; the extremities of these projections, from their appearance, are called pedes hippocampi. Just external to the pedes where the commissure makes the curve forward are two elevations, the pedes accessorii. The lateral ventricles are regularly lined by a serous membrane which is reflected through the foramen of Monro into the third ventricle; from thence into the fourth ventricle, lining its interior; it also transudes a secretion which is moistens and protects the interior of these cavities.

Situated in the posterior division of the skull, and beneath the cerebrum, is the cerebellum, or little brain, oblong and

flattened in form, and about one seventh as large as the cerebrum, from the posterior lobes of which it is separated, and protected from their subjacent pressure by the tentorium cerebelli. It is composed of white and gray substances, the former occupying the interior and the latter the surface — which consists of innumerable laminae, separated by furrows varying from a line to half an inch in depth. Like the cerebrum, its first and superior division is into two hemispheres, which division is established behind by a notch which receives the falx cerebelli; and upon its under-surface, by a deep excavation which lodges the medulla oblongata. Running between its two hemispheres

is a longitudinal ridge, the superior portion of which occupies the upper surface of the organ, and is termed the superior vermiform process; the other portion is bounded within a deep fissure (vallecula) and connects the hemispheres; this is the inferior vermiform process. Each of these processes is subdivided into smaller portions or lobes. The next division is that of each of the hemispheres of the cerebellum into an upper and lower portion by means of a fissure. The upper portion consists of two lobes, and the lower three, which are marked out and separated by fissures. From the arrangement of their white and gray substance, a vertical section of either hemisphere presents the appearance of a tree, and

foliage, hence denominated arbor vitae cerebelli, in the tumor of which is an elongated mass of grey substance, somewhat denticulated and called corpus [illegible] or dentatum, and was denominated by Spurzheim "the ganglion of the cerebellum". Arising from the interior of the hemispheres are two fasciculi of fibres which pass upward to the lower pair of the corpora quadrigemina, in which they are lost. In their ascent they converge and are connected by a medullary lamella called the valve of Vieusens, which forms the roof of a cavity enclosed within the cerebellum, and known as the fourth ventricle. The pons Varolii, or commissure of the cerebellum, is a broad band of fibres, which arch across

the upper part of the medulla oblongata, and contracting on each side into a cord, enter the substance of the cerebellum, and are known as the crura cerebelli.

The Medulla Oblongata. This constitutes the third division of the encephalon; and is that portion of the spinal cord situated within the cranium, about an inch in length, broad and thick superiorly, but tapering inferiorly towards the occipital foramen. It is divided superficially by an anterior and posterior vertical fissure into two lateral columns, each of which is subdivided into several smaller columns or cords (the cerebral hemispheres were regarded by Gall as resulting from the expansion or evolution of the fibres of these columns,

and from their diverging in their course upwards, were denominated by him the diverging fibres). First, the anterior columns, or corpora pyramidalia; these are narrow and convex, situated, one on each side of the anterior vertical fissure; which fissure is crossed by some fibres from the inner border of each pyramid, which mutually change place or decussate. The fibres of these columns now pass upward into the pons varolii, here diverging and separating, pass out and assist, with fibres of the other columns, in forming the crura cerebri; after which they proceed through the thalami optici, thence into the corpora striata, and having become successively increased by new accessions of [illegible]

matter through their course, [illegible] diverge, and assist in forming the cerebral hemispheres.

Next, the middle columns. These, from their shape, are termed corpora olivaria. They are much shorter than the others, and situated just externally to the corpora pyramidalia, each containing within itself a small nucleus or ganglion, from whence their fibres arise, and proceeding upward, follow the course of the fibres of the pyramidalia, and, like them, diverging and augmenting as they ascend, reach the corpora striata, after which they also participate in forming the cerebral hemispheres.

Thirdly, the posterior columns or

corpora restiformia. These are the largest, and constitute the posterior masses of the lateral columns. They are separated, posteriorly, by the fourth ventricle and posterior vertical fissure; and, in front, from the corpora olivaria, by two small grooves. Diverging as they ascend towards the cerebellum into two rounded cords which enter the substance of the cerebellum, and then are supposed to proceed through the corpus striatum; after which, diverging and expanding, constitute the cerebellum.

Now these are grand divisions of the encephalon, the cerebrum, the cerebellum, and medulla oblongata, associated and connected by means of

fibrous cords, constitute the brain, which has nine, or according to Soemmering's arrangement, twelve, pairs of nerves arising from it, and emerging through the foramina at the base of the cranium. It is also invested by three membranes: viz; the pia mater, a thin vascular membrane, which, dipping between the convolutions, closely invests the whole surface of the brain, and is regarded as the nutrient membrane of the brain. Covering this, is the second or arachnoid, which is a thin, transparent, serous membrane, investing the brain without dipping between its convolutions, but enclosing between it and the pia mater several spaces which communi-

cate with each other, and contain a serous secretion (the cerebro-spinal fluid), which seems to vary in quantity, being less in youth than in old age, and is regarded as serving as a mechanical protection to the brain and spinal cord against violent shocks and vibrations to which they are frequently exposed.

Dura Mater. This is a dense fibrous membrane lining the inner surface of the cranium, and, investing the brain, is prolonged into the spinal column. Its internal surface is smooth from being in contact with the arachnoid, from which it receives a serous coat. It also forms several processes in number, which separate

rate and support certain portions of the encephalon. The dura mater is the external membrane, and, from its structure, is beautifully adapted to the protection of the brain and its more delicate membranes.

The encephalon is supplied with blood by the internal carotid and vertebral arteries, which are peculiarly adapted, forming a number of curves, which, increasing the amount of friction, consequently diminishes the velocity of the current of blood, which, probably, would otherwise prove deleterious.

Physiology of the Encephalon.

Notwithstanding the indefatigable re-

searches, and the many experiments of eminent physiologists, the information in regard to the functions of the encephalon seem, as yet, indefinite and obscure. The most of writers, I believe, concur in believing it to be the organ of the mind, and seat of sensation; but, consisting of a series of different ganglia, the difficulty seems to be in discovering the proper function of each. The function of the cerebral or hemispherical ganglia appears more evident from experiments and comparative physiology than of any of the other ganglia of the brain. The effects of injuries, or of various morbid conditions of these ganglia, and the

result of their removal by repeated experiments on animals and birds in producing no apparent sensation or excitability, but plunging the subject into a state of profound stupor, thus impairing, or totally disabling the mental faculties, all seem to argue conclusively that they are destitute of sensibility, and are the seat of the intellect, or, according to Draper, "the instrument through which the mind exerts its influence on the body," and is developed in accordance with the intellectual grade of the animal. The respective functions of the minor ganglia of the cerebrum, are among those which are uncertain. The olfactory ganglia, we

as told, have been challenged by means of a needle introduced through the bones of the cranium, without producing any satisfactory result in regard to their function; but from their successive development in different animals in correspondence with that of their external accessory organs, and from the distribution of their nerves, physiologists have been led to regard them as the ganglia of the specific sense of sound.

The Optic Thalami. These, from the experiments of Longet, have no influence over the function of seeing, but, on irritating either transversely, from one side to the opposite side to the one from which the

thalamus was removed, he concluded they had a peculiar crossed action upon the voluntary movements; and are also supposed by some, from their connection with the posterior columns of the spinal cord, and great development in man, to be the ganglia of tactual sensation.

Next, the corpora striata. These, with the other ganglia just noticed, are regarded as independent centres of action. Their precise function seems uncertain; but being connected by fibres from the anterior columns of the medulla oblongata, are thought to have some connection with the sensation of volition.

Corpora quadrigemina. These have been noticed to be more largely developed in fishes, reptiles, and birds, in which the cerebrum is very large in proportion to the entire head, than in mammals, and in man; and from this fact, and the result of direct experiments in producing complete blindness when the optic nerves were cut, or the corpora destroyed, it has been inferred that they preside as ganglia over the sense of sight.

The cerebellum. There appears to exist a great diversity of opinion among physiologists in regard to the function of this ganglion, some maintaining that its office is that of regulating or co-

ordinating general muscular movements; others, that it is for the perception of muscular sensation; and a third party that it is the organ of amativeness, or sexual instinct, but all seeming to fail thus far in demonstrating satisfactorily the precise nature of its function. But the weight of experimental evidence, and comparative physiology, seem to favor the first doctrine, or that advanced by Flourens, that it has the power of associating or coordinating the different voluntary movements.

Next, the Pons Varolii. This is regarded as the ganglion by which impressions conveyed inwardly through the nerves, are first converted into con-

scious sensation, and in which the involuntary impulses originate which stimulate the muscles to contraction; for Longet observed that, when both of these all manifestations of sensation and volition ceased.

Lastly, The Medulla Oblongata, being a portion of the spinal cord, is regarded as the track of communication between it and the brain, the anterior portion conveying it centrifugally, viz. motion, sensation; and being the seat of certain nerves, seems to exert a commanding influence over the functions of respiration and deglutition.

Phrenology.

The science of phrenology, I believe, was first suggested by Gall, who attempted to prove that the brain does not main istin to the intellect as a single organ, but as a combination of organs; and it has since been advocated by Spurzheim and others, who contend that the brain is composed of a number of organs which have special or individual functions, and that in accordance with the development of these organs there is a corresponding increase of function, and development of the skull; and consequently, upon the inspection of the exterior of the cranium the character of per-

sons may be read, or certain, predominant faculties distinguished; being argued that this specialization of function is agreeable to the general mechanism of the system, in which particular organs are charged with particular duties; and also that by observing and noting the peculiar developements of the crania of individuals of known character, and then accurately comparing with others whose characters are unknown, we are enabled to determine the most prominent characteristics of the latter.

Liability of the Encephalon to Injuries and Disease.

As well as this organ is protected by

the bony walls of the cranium, it not unfrequently receives injuries of a very important character. The most common seem to be those which arise from fracture of the cranium, which, from the nature of the injury, producing abnormal pressure, or driving a spicule of bone inward, which lacerates the encephalon, thereby causing an effusion of blood, or exciting inflammation, which may cause, directly or indirectly, apoplexy, paralysis, or epilepsy. From the nature of the encephalon, and its intimate connection with all parts of the system, it appears to be more or less affected secondarily by all injuries or diseases

the system may suffer, more especially by certain forms which affect the nervous system, and consequently destitute the encephalon — in a greater degree. It is also often the seat of certain morbid changes, most commonly caused by inflammation excited by various causes. The symptoms characterizing these morbid changes in the cranium are not to be relied on as infallible; for we are told that, post mortem examinations of persons who died of apparently well marked cases of inflammation, or disease of the encephalon have failed to detect or reveal any morbid changes, or lesions whatever.

1864

Inaugural Dissertation

on

Yellow Fever.

Submitted to the Examination

of the

Provost Regents and Faculty

of Physic

of the University of Pennsylvania

for the

Degree of Doctor of Medicine

By

Albert J. Simmons

of

S. Carolina

Yellow Fever.

Perhaps there is no disease of a tropical [illegible] the student of medicine than that of yellow fever, not only in regard to its fatality but in reference also to its true nature and causes.

[illegible] of [illegible] this disease in all its various forms by a residence of several years in the Southern States and some of the West India Islands, I propose to describe some of its most important peculiarities, together with a few facts which have come under my own observation. I shall not, however, attempt to go into a minute description for this my limits will not allow. All I shall do [illegible]

[illegible] symptoms of [illegible]

[illegible]

differ in different individuals and in

different epidemics, yet to one who has had

[illegible] experience in the disease [illegible]

[illegible] difficulty in forming a correct diag-

nosis.

The attack generally commences by a

[illegible] heavy pain in the head, back, and

[illegible] of the arms and legs, followed by

alternate flushes of heat and chill. The

sclerotic coat of the eyes become red

and injected, and after a longer or shorter

period general febrile symptoms set in.

[illegible] this frequently takes place without any

warning in the midst of general health.

When the disease is fully established the

[illegible]

[illegible] position of the body, being unable to

[illegible] Others, again, suffer but very little pain being seized with stupor and insensibility [illegible]

of these two distinct modes of attack the disease has been divided by medical writers into ataxic and sthenic the former characterised by well marked reaction and latter where no reaction, or but very little takes place. Notwithstanding other divisions sometimes made, yet for all practical purposes these two are sufficient. Cases occuring which cannot be placed in one or the other of these will be noticed hereafter.

In the first or active form of yellow fever [illegible] skin is dry and hot, sometimes in- [illegible]

At other times we find nearly the opposite symptoms prevailing, the skin with the exception of a small space over the stomach is cold and clammy, with the pulse from seventy to [illegible]. In either of these conditions there is always great pain and tenderness over the epigastrium which is rendered very severe on the least pressure. Sometimes the irritability is so great that whatever is taken into the stomach is instantly rejected, at other times food and drink can be taken with but very little inconvenience. But such is rarely the case. Generally speaking nothing whatever can be retained, and not unfrequently vomiting comes on spontaneously, accompanied by the most [illegible] pain and distress. The matter thrown up at this stage is generally what- [illegible]

The bowells also are costive, and when moved
Sometimes diarhoea sets in at the commencement, and the patient discharges large quantities of disorganized blood.

In the majority of cases the respiration is natural, but occasionally it is hurried and laborious, accompanied by deep and heavy sighing.

The blood in this disease undergoes some

as in other inflamatory diseases, it is very and possesses precisely the same odor as black vomit. The tongue is generally clean or only slightly tinged or covered a little

[illegible] as is some-times the case in the very last stage.

This form of the disease though occasionally fatal is almost always within the reach of remedies. When these are prop-[illegible] reaction [illegible] to three days, when a general remission of all the symptoms takes place and the patient [illegible] physician [illegible] symptoms [illegible] suddenly assume the most malignant type— the patient will suddenly sink, the pulse become rapid and irregular, the tongue covered with a dark brown fur, the gums and nostrils [illegible]

in the primary or forming stage.

In the congestive form of typhus fever the attack commences somewhat differently. It is generally sudden and attended with great prostration. In most cases there is but very little pain. The patient is dull and stupid with a stolid expression of countenance, and has but little inclination to converse or move about. The pulse is sometimes accelerated but it is more generally full and [illegible]. [illegible] and other outlets of the body. After the disease has progressed somewhat the scalp, and sometimes the whole [illegible], assumes a deep yellow or bronze color.

This is one of the most unfavorable symptoms. When the skin is tinged with a bright yellow, it is not so discouraging, but when it has the appearance above described, before any remedies can be made to act, the patient is carried off by black vomit or fatal collapse. It not unfrequently happens in this type of the disease that a general remission of all the symptoms suddenly takes place and the patient [illegible] himself well or entirely out of danger.

I recollect a gentleman at New Orleans in 1852 illustrating this feature of the disease very remarkably. Calling at his house one morning I was struck by his peculiar appearance. His complexion was like mahogany, his eyes sunken and glary, and the skin at the margin of the [illegible] of a deep bronze color. I questioned him in regard

[illegible]

[illegible]

that at present he felt nothing remarkable any further

[illegible]

[illegible]

taking the yellow fever, and advised him to call

in medical aid as soon as possible. He replied

that he would do so in the course of the day

if he found himself getting worse. Two hours

[illegible]

a perfect state of collapse. Such cases are

frequently met with, especially among the

[illegible]

[illegible]

[illegible]

[illegible]

other hand the disease assumes the apoplec-

[illegible]

[illegible] by lightning, without the least warning

on the street or at his place of business. He is suddenly seized with [illegible] [illegible] [illegible] dilatation of the pupils, irritability of the stomach, cold extremities, hemorrage from the mouth and nose and finally death. All these symptoms I have known to take place in the space of a few hours. Then again it [illegible] [illegible] [illegible] [illegible] so slight and runs its course so imperceptibly that the patient is hardly aware of its presence until the vitality of life is destroyed.

The causes of yellow fever I think are not yet fully understood. Some contend that it is produced by specific contagion brought from a foreign port others that it is produced spontaneously by endemic [illegible] influence. Of these two theories the former according to my observations is undoubtedly correct. Indeed so well convinced am I of the truth of this theory that I believe that we [illegible]

whole northern army to take up its quarters at Mobile or New Orleans during the sickly season if a perfect blockade of the port were established so that not a foreign vessel could enter, not a solitary case of yellow fever would occur. But on the contrary were the same army removed to Vera Cruz or Havana, or St. Iago where frost is unknown and where vegetation is always in bloom it would be developed in three days. Because the cause there always exist, it is there endemic and only requires northern or unacclimated emigration in order to develop it. What that endemic influence is has not yet been demonstrated. It is not heat for some of the hottest climates are exempt from it. It is not humidity for the disease occurs less in rainy than dry seasons. Some suppose it to be produced by miasm; but this I am inclined to doubt from the fact that it is as common

~~[illegible]~~ of the country as it is in low damp portions ~~of the country~~ where that agent is generally supposed to exist. Indeed, it is a question in my mind whether there is any such a thing as miasm. I know it is the generally received opinion among physicians, but when we come to investigate the subject its existence is not so clear. It is generally supposed to be the exciting cause of numerous diseases, and so certain is the profession generally of the truth of this position that many diseases have been named miasmatic. Now, if we look at certain sections of the country we perceive that where miasm is the most likely to prevail, there diseases assume the mildest type. Such is the case in the low swampy districts of Mississippi and Louisiana where vegetable decomposition and the effluvia from stagnant water is so great that it is even offensive; whereas in the hills and

there is but very little vegitable decomposition and no stagnant water, we find that pneumonia assumes the typhoid character, and common chills and fever the malignant or congestive type. If miasm is a poison it is reasonable to suppose that diseases ought to be more fatal where it exists in the greatest quantity; but observation proves the reverse of this. If, then, yellow fever is not produced by heat, humidity nor miasm what then does produce it? For my part I shall not attempt to answer. It is useless to assume a theory when it cannot be proven. Some facts, however, which I have noticed may not, perhaps, be uninteresting.

During the epidemice of 1853 a merchant of Gandon Miss. sent to New Orleans for goods. When they arrived himself and two clerks opened the boxes and distributed them through the store. In two or three days they were all three taken

with the yellow fever and died. [illegible] to the [illegible] out of a population of [illegible] over one hundred died. Now in this instance there can be no doubt that the propagating influence was carried there in those goods. What that — whether animalcules or poisoned atmosphere remains to be demonstrated. It is certain however, and the fact has been observed by many that an individual taking the disease in one locality and going to another [illegible] communicate it. In order to take it a person must be exposed to the first or primary exciting cause. This is undoubtedly imported by shipping from some country where it exists or is produced spontaneously and where the temperature is favorable there it spreads and is propagated.

The treatment of yellow fever must of course depend upon the character of the attack and the stage of the disease.

determine what type it will be likely to assume — This, however, must be premised by the nature of the epidemic, and the peculiar temperament of the patient. The apoplectic generally terminates fatally in spite of all treatment. The onset is so sudden that before medicines can be made to act the disease has done its work. The [illegible] can be generally cured. The active or inflammatory type, if properly managed, almost always ends in recovery.

[illegible] cannot, in my opinion, be too severely denounced. Whatever value it may have in other diseases, in this it is certainly inadmissible. I have seen so much of its ill effects that I [illegible]

The apoplectic, or malignant inflamatory,

it only hastens the fatal result. In the milder cases, if it seems to relieve the more urgent symptoms, and lessen the fever, it only increases the dangers of the second stage, and renders the patient more liable to typhoid symptoms. Yellow fever is [illegible] of the blood, produced by some specific poison. There appears to be a tendency to the [illegible] from the [illegible]. [illegible] then, to treat it successfully, we ought to treat it pathologically.

The plan which I have generally adopted is the following. Of course the treatment must be varied according to circumstances.

If the stomach is loaded give an emetic of ipecacuana followed after it has done operating by a cathartic of castor oil. If the skin is cold, which is generally the case

the patient into a hot mustard bath, and
[illegible] with tonics and stimulents internally. If by
these means reaction is partially or wholly estab-
[illegible] some of the vegitable purges combined with
calomel must be given until the bowels are
thoroughly cleansed. If there is great debility
with tendency to typhoid symptoms, quinine
and iron must be given every hour or two ac-
cording to the urgency of the case. But on the
contrary should there be too much reaction it
must be counteracted by the application of cold
water. Sometimes it is better to give a cold bath
at once. When there is great pain over the epi-
gastrium there is no remedy more effectual than
cold water applied by means of wet clothes.
Indeed, there are some cases in which I regard it.
the "sine qua non." In the mean time if there
[illegible] so that [illegible] it is not [illegible]

by the tincture of the Chloride of Iron, in doses of from fifteen to twenty drops every [illegible] hours according to the urgency of the symptoms. This is an invaluable remedy. It appears to have a peculiar [illegible] in counteracting the disorganization of the blood which is such a prominent symptom in this disease. Sugar of lead is also an important remedy. Combined with mercury in alterative doses, it is very efficient in alleviating the [illegible] of the stomach, and preventing black vomit. But it is not, in my opinion, equal to the [illegible] of Iron. When black vomit takes place medicines are of but very little use. Recovery under such circumstances is very rare. The object of the physician must be to prevent such an occurrence. In some cases it is inevitable, from the very malignancy of the attack; in others it is the result of neglect or bad treatment.

The milder cases of the disease are generally [illegible]. When called [illegible] it lasts longer, the skin is hotter and there is more pain than in the malignant inflamitory. There is less stupor, and the yellowness is more of an orange color. In such cases it may be well to give an emetic. After this relieve the fever by the use of cold water. This can be done in a few hours by keeping it constantly applied. After the fever is reduced and the surface is cool administer a cathartic. Castor oil, perhaps, will be the best. If there is much pain over the epigastrum keep cold water constantly applied, and give small doses of calomel and sugar of lead, repeated every one, or two [illegible]. After the fever has subsided and the surface is cool, an occasional cathartic and a few grains of quinine three or four times a day, will [illegible].

Bears R. A.
1864

Gentlemen.

It is under circumstances, exceedingly [illegible] -nassing, that I arouse my pen from its quiet slumbers, to write a dissertation on a subject appert-aining to Medicine, to be submitted to men for examination who stand pre-eminent among the desciples of Esculapius; as my knowledge is only theoretical, [illegible] having witnessed wounds inflicted upon the plains of Manassa, and their treatment, I have taken for my subject Gun Shot Wounds

these are wounds inflicted by
metallic bodies of a round or
conical shape discharged from
firearms of various calibre such
as Cannon Musket, rifle balls &c

The Military Practice

The Surgeon is more frequently
called upon to treat wounds of
this character than punctured
or incised wounds inflicted
by the Sword or Sabre as these
instruments during our present
national troubles seem to have lost their
affinity for each other and there-
fore seldom come in contact

Gun Shot Wounds

are always more or less of a

lacerating kind depending upon the velocity of the ball and the distance it is thrown before striking the object. We generally find the parts struck by the ball deprived of feeling and covered with slough. Hemmorrhage is generally slight unless large arteries are implicated and when such is the case danger may be anticipated.

Intermediary hemorrhage and secondary are more to be feared than immediate hemorrhage as the latter seldom occurs to endanger life as the lacerated vessels contract and retract

within their sheaths and thus
the flow of blood is checked

Intermediary hemorrhage
sometimes occurs when reaction
is thoroughly established and
proves fatal

Secondary hemorrhage
frequently occurs from the patient
being moved from Hospitals
by rough attendants thereby
increasing the circulation which
causes the coagula to be forced
away which spontaneously closes
the wound. I remember
witnessing the death of a man
who was wounded at the battle
of Balls Bluff and remained

at a private house for nearly a week, languishing with the hope of recovery but on being removed to the hospital at Lewisburg about two miles distant, secondary hemorrhage occurred which produced a fatal result.—

The hemorrhage is usually slight from a cannon ball with the exception of the first gush of blood. Cannon balls are more to be feared when they have partially lost their impetus than for the first six hundred yards after their exit as the ball can be more easily turned from its course thereby crushing some

[illegible] [illegible] different [illegible] of the body. Musket balls generally inflict the greatest amount of injury in large engagements especially when the [illegible] contain Buck shot which is frequently in use when the round ball is used

The round ball was formerly in most common use but has recently been superceded by the conical or Minnie ball. This ball is regarded as the most formidable in use in consequence of its having greater and much greater rapidity and not so easily turned from its course

also it lacerates the parts more and causes a greater opening yet when it strikes the object it rotates and causes a greater aperture.

Canister and Grape shot are similar in their effect to Cannon balls but being smaller the wounds are not so severe.

Small bird shot discharged from a gun produce different effects depending upon the distance travelled before striking the object. If the distance be great the shot will scatter and not penetrate beyond the skin and no mischief will be done unless one should strike the eye

but if the distance be great their effects are more destructive than bullets as they triangle and lacerate

[illegible]

clothing carried into a wound has proved to be a benefit in extracting the shot and in most cases the

[illegible]

Course of Balls

A ball may be termed from its rectilinear course which is illustrated by a ball rebounding on water and sometimes very

[illegible]
from its course thus a book button or watch has saved the lifes of many and in deep wounds bone muscle and fascia have deflected the ball from its course

A ball may enter one side of the chest or abdomen and pass out at a point exactly opposite — Instances are on record in which a ball entered the breast and lodged in the scrotum — one in which it entered the [illegible] and lodged in the opposite thigh

To determine the effects of a ball we must consider the momentum, form, density and

of this character cannot be known
until Autopsy is established
at the point of entrance and exit
be effected that we were not
of entrance and another distinguish
by a foreign body carried by the ball,
also it is of a bluish color

[illegible] intestines are not apt to slough [illegible] the Peritoneum causing the most fatal form of Peritonitis.

Many events are liable to occur during the process of cure Inflammation, Erysipelas, Mortification [illegible] unite attended with Caries and Necrosis or Tetanus may supervene and death closes the scene

Lodgment of Balls

We should endeavor first to [illegible] has lodged or passed out the [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

recorded to have occurred in wounds of the head. Again it may be possible for two balls to enter by the same aperture [illegible] pass out and the other to diverge and wound some important organ or a ball may split from striking [illegible] and one part may have been extracted and the other may have injured important vessels and nerves. Other foreign bodies such as clothes

stone wood and earth have been found in wounds and even the portions of one soldier have been found in the body of his Comrade. These foreign bodies irritate the sensible parts causing inflammation continued suppuration and hemorrhage

Collapse

This is the first constitutional effect of gunshot wounds and its intensity depends upon the amount of injury and the parts effected as the wounds of the Abdomen and Thorax are followed by a much more severe shock than any other part of the body. The Collapse sustained by

The system may be of two kinds
Mental and Corporeal. The mental
[illegible] in the future is
assumed that there is no danger, but
the latter being independent of
the mind, the depression is in propor-
tion to the injury and the part
implicated. [illegible]
carried away a limb or a ball may
wound the Lungs Kidneys or Stomach
[illegible]
patient found in a depressed condi-
and much alarmed which is
beyond his control. Sometimes when
there is a flesh wound it may cause
[illegible] which
may be removed by a narcotic

; yet in some flesh wounds very little depression is produced it soon passes off and yielding [illegible] the patient [illegible]; but if the wound be slight and the depression cannot be subdued we may conclude that some vital part is wounded and our Prognosis will be doubtful. The patient presents during the stage of Collapse a pale face and we find the extremities cold, pulse small and often irregular and fluttering [illegible].

The nature of the wound is the criterion for us to judge whether the patient should be aroused immediately but we must endeavor to prevent the [illegible] going any further.

[illegible]

[illegible]

is whether we shall suffer the

[illegible]

and attempt a cure or amputate

immediately. The same treatment

is applicable in wounds of this

character as in contused and

[illegible]

[illegible]

shattered more especially as or

[illegible]

[illegible]

[illegible]

we find the limb cold and in

an insensible condition - when a

[illegible]

by a spent ball, without destroying
the continuity of the integument.
[illegible]
[illegible] in each of the
cases mentioned amputation
should be performed before fever
and inflammation manifest [illegible]
themselves. It is difficult to decide
in cases less violent than those
above mentioned but the Surgeon
must be governed by the condition
of the patient and the advantages
of good nursing, that he may be
venture to decide as regards
amputation. The experience of
most modern surgeons have
decided that when amputation

is necessary [illegible] primary (that is before inflammatory symptoms set in) and it is attended with much less danger than secondary amputation. It must be remembered that the surgeon in Military practice has many more difficulties to contend with than those in civil life; for the wounded are generally crowded in Ambulances or wagons without springs and carried for miles over rough roads to hospitals and frequently upon their arrival they are ordered to secondary hospitals for further treatment. It is the duty of the surgeon first to [illegible] [illegible] the [illegible]

[illegible] regardless [illegible]
of limbs, And since the commencement
of the unnatural war that now
invades our once favored land
many limbs have been sacrificed
which under [illegible]
circumstances might have been
saved but the fond assurance
that Peace with her healing
fingers will twine for them a wreath
of praise to bind their overshadowed
brows for so nobly repulsing the
usurpers of their rights and the
invaders of their homes proved
sufficient solace to [illegible]
up in their hours of trial and
[illegible]

Extraction of Foreign Bodies

We should remove all foreign bodies as soon as possible as they tend to irritate causing violent inflammatory symptoms, and profuse suppuration unless they are firmly imbedded in bone when such is the case it is better to defer extracting them until suppuration occurs which enlarges the wound and the bodies approach nearer the surface and can be extracted without dilitation. When it is necessary to dilate a wound it should be done as much as possible with the finger as we are [illegible] to detect

the position of the foreign body without causing much irritation. When the finger is not sufficient to reach the foreign body, we [illegible] endeavor to place the patient as near as possible in the position he received the wound and use the probe in a gentle but determined manner, but this should not be done when the parts are swollen and inflammation has taken place. A great many instruments have been invented to find the position of foreign bodies and [illegible]

A silver probe about twelve inches [illegible] has been recommended

[illegible]

[illegible]

by Coxeter for extracting balls which are frequently used with [illegible] being [illegible] they can pass down almost any [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] used. When it occurs that a [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] and extracted by forceps made [illegible] [illegible] [illegible] [illegible] screw and if this should fail some have recommended the Trephin [illegible] [illegible] [illegible] [illegible]

indications for its use it should not be used as the [illegible] is so fraught with danger and experience has shown that patients will recover sometimes unexpectedly from the most severe injuries.

Hemorrhage

When their is hemorrhage from [illegible] [illegible] may be arrested by cold applications and pressure but if large arteries are [illegible] ligatures above and below the wound When arteries are [illegible] that are buried for some depth in muscle as the interosseous it is better to [illegible] brachial [illegible]

undergo the tedious operation of tieing both ends of the interosseous

Dressings

The best mode of dressing a wound is to saturate some lint with oil to prevent irritation and apply a compress made of linen to be confined by some bandage. The inflammation which is frequently occasioned by cold applications. The best method is to have a basin of water and place some material of a spongy texture into it and let it extend to the wound, from which the matter will be conveyed to the wound as fast as it is absorbed by the inflammed part. This application however should

only be used as long as it is grateful to the patient. If however the inflam-
mation is very high the dressing should
be gradually warmed and when matter
is forming Poultices should be applied
made of some simple substance (as
is Bread & Milk) their object being
to alleviate pain and retain the
moisture also to produce suppuration
These Poultices should be removed
when their moisture is absorbed
and fresh ones applied. We should
keep the patient quiet, elevate the
part and let his diet be low; also
use saline purgatives and diaphoretics
Blood-letting both general & local
is sometimes used to relieve

congestion, when the patient is of a full plethoric habit and we have

inflammation

by [illegible], [illegible] [illegible]
[illegible] of the face are generally
attended with greater deformity
than any other part of the body.
We should remove all spicula from
the bone and use the simple water
dressing. The diet should be fluid
but good.

[illegible]

These are generally of a formidable
character. The patient should be
placed in bed and the wound
should be examined and if any
foreign substance is found it should
be moved from the Thorax. We
should bleed if necessary and
if there is much cough –

[illegible] with [illegible]
may be used with good effects;
keeping the patient on low diet
also may use saline purgatives
and laxative clysters.

Wounds of the Abdomen

These are also a very formidable class of injuries. They may be of several kinds; firstly, flesh wounds of the abdomen; secondly, those entering the walls of the abdomen and also those penetrating deeply into the cavity of the abdomen or wounding the viscera. If the stomach liver intestines or bladder is not injured a good result may be anticipated by proper

treatment such as perfect rest antiphlogistic regimen and opiates. In wounds penetrating the abdomen our reliance is on depletion and abstinence placing the patient in the supine position, and if there should be swelling and pain which usually occurs, we must use copious fomentations and purgatives.

Care should be observed in using them as they may increase the hemorrhage action of the bowels and thereby render the danger inevitable great. Opium must be our main reliance, and if necessary to empty the bowels

mild clysters of oil should be used. The dressings should be light; foreign bodies should be searched after only if situated superficially.

Wounds of the bladder generally prove fatal in consequence of the escape of urine into the cavity of the abdomen infiltrating into the cellular tissue producing gangrene. A Catheter should be passed into the urethra and removed every few days to prevent incrustation.

The dressings should be light and simple; regimen low complete quietude

demulcent drinks depletion and emollient Clysters
If the ball should remain in the bladder the usual operation of Lithotomy should be performed.

[illegible]
Albert Beans
Loudon County
Virginia.
1864

An Inaugural Dissertation On Diabetes

Respectfully Submitted
to the examination of the
Provost Regents and
Faculty of Physic
of the
University of Maryland

For the degree of
Doctor in Medicine

By
William M. Robertson
of
Maryland

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Diabetes

Systematic writers have adopted the term Diabetes, from. diaßaivw, to pass through, to express that condition in which the amount of urine secreted, and passed, is permantly too great. This desease is generally characterize by the excessive discharge of saccharine urine constantly running off as it were from the system. But we cannot always conclude from even excessive flow of urine that it is Diabetes, for we have many other cases in which there may be a great flow of urine, where the disease may be far different from that of Diabetes, or in fact, there may be no disease prevailing at all, as the wealthy is capable of having great controle over the functions of the skin and kidneys.

There are also certain drugs and articles of food known to cause great increase in the flow of urine, Surgical persons frequently pass great quantities of odorous urine. We can judge therefore from this, that although the quantity of urine secreted is the most striking symptom we have of Diabetes, this its most definite and characteristic symptom is a most remarkable change in the quality of that urine. Before determining we must examine most carefully the urine, and see that it is becoming loaded with sugar. The sensible qualities of Diabetic urine differ greatly from that of healthy urine. Diabetic urine is of a light colour and transparent, its odour is rather peculiar, some compare it with that of hay or milk

others to that of faint smell of apples. Its taste is generally sweet and notwithstanding its vitreous appearance Diabetic urine is remarkable heavy, when boiled in a test tube with an equal quantity of liquor Potassae it assumes a dark colour of a greater or less dyeth according to the quantity of sugar present. another test is given by Trommer in a test tube with some of the urine you suspect of being Diabetic mix enough of the solution of sulphate of Copper to give it a blue tint, then add a considerable quantity of the liquor Potassae. If sugar be present a precipitate of hydrated oxide of Copper falls, which is redissolved in the excess of alkali, forming a dark blue solution. Heat again furnishes us with a good and easy test of saccharine

urine, It was believed that the quantity of urea in Diabetic urine was much reduced below its natural standard, and that the sugar was thus formed at the expence of the urea, but from late observations it has been shown that the quantity of urea is not diminished in Diabetic urine but is generally as abundant as in healthy urine and in some cases even more so. The presence of sugar conceals the urea and in ordinary test may not be so easily discovered, but by certain modes of procedure the urea may easily be discovered and is generally found to be more excessive than deficient. The urine of Diabetic persons also contains their relative proportion of saline matters, so the only essential difference from the standard chemical constitution

of the urine, is that it contains a solution of sugar. This explains for its peculiar odour and taste, it also accounts for a very characteristic property of the Diabetic urine, that of its high specific gravity, which is so necessary to notice in diagnosing a case. Generally the specific gravity of the urine is inversely proportional to the quantity secreted in a given time, but in Diabetes the saccharine impregnation is so strong that it more than keeps pace with the quantity secreted. The specific gravity is much higher than that of healthy urine. The quantity of urine secreted is enormous, much more than could be supplied by the quantity of fluid that is drank, a healthy person generally passes from three to four pints a day, when a

Diabetic person in the same time will void greater that amount, patients in Diabetes have been known to void at least forty pints in twenty-four hours, when a healthy person would not pass more than forty ounces in the same time. As much as seven pints have been known to pass from Diabetic persons, in one instance, an Italian author declares that two hundred pints have been discharged in the same time. The saccharine matter which the urine contains may be obtained in its solid state by evaporating the urine, and cakes of crystallized sugar may thus be obtained. It differs from that of the common sugar, and is more similar to that of the

oranges. The sugar is so
abundant sometimes that when
ever the urine may happen to
fall, there may be sugar detect-
ed, as the urine dries, patients
have detected themselves
on their black stockings and
shoes where a drop or so of
the Diabetic urine has fallen,
leaving, as it dries a white
powdery spot. This may be
the first thing to cause the
Physician to suspect Diabetis
and on being told these
things by the patient, then
examine the urine looks for
the sugar that may be deposit-
ed there and finds that the
patient has Diabetis, a patients
attention is sometimes drawn
to his urine by the great
attraction of a great number
of flies and other insects

which the sweetness of his urine has attracted, this of course arouses suspicion, and causes examination of the urine.

The production of so much sugar from the laboratory of the human body, is surely a very surprising and singular phenomenon, for it has been proven that sugar is not a constituent of healthy urine &. Prout in his experience states that he had never known saccharine matter to occur in the urine of any animal, then that of man other animals such as the horse have been suspicioned, but an examination of their urine always proved to be false.

The next point of view that I will take in consideration is

the specific gravity of the urine, the examination of the specific gravity of the diabetic urine is a constant quality. This we must attend to promptly for it is always a faithful index, not only the presence, but of the severity of the disorder, We therefore cannot be too particular about the examination of the urine for its specific gravity.

The specific gravity of healthy urine has been estimated at that of 1015, to 1025. different authors therefore vary as to its natural standard, that of diabetic urine varys from 1020 to 1050 sometimes up to 1060 seldom so low as 1020. The average may be taken at 1040. Besides the quantities and qualities of the urine discharged.

there are other important symtoms which I will now discuss,
So much fluid being evacuated from the body by this channal, that the other channal's for the excretion of liquid matters would be comparatively dry, The skin is arid, harsh, and unpersperable, the patient will say he never sweat, this is a general symtom, yet in few patients as the fatal period of the disease comes on the skin becomes humid.
The bowels are mostly costive the faces remarkable solid, and free from moisture, the tongue is dry, parched and sticky, sometimes unnaturally clean.
the patient also suffers insatiable thirst, they are constantly wishing for drink, if only for a drop or so to satisfy their tormenting

sensation of thirst. the appetite for food is generally great, but not so much as that for drink, the ignorant class of people who are attacted by this complaint, often wonder at their loss of strenght, and think there cannot be much the matter with them since they continue to eat and drink so famously. Again various other symptoms and sensation's are caused by the enormous drain daily upon the system, there is a table given showing how much solid matter is lost from the urine discharged daily taken 1040 as the average specific gravity, and ten pints as the average quantity. the patient in health four hours would loose fifteen ounces and seven

drams, more then a pound and half of solid meterials,
Dr Garrod after analyzing the urine found the quantity of sugar to exceed daily from half to a pound and three quarters, the sugar is most abundant three or four hours after a meal and less abundant when the secretions takes place at the time most remote from the influence of the food,
We are not surprised then at the hunger, the wasting away, the hectic fever, the sicking stomach, the debility, the chilly state of the body, the sense of weariness, the eversion of exercise, all these symptoms are present. there are other symptoms present, uneasiness of the stomach after meals dimness of vision.

redness of the whole interior of the mouth, sponginess of the gums, and looseness of the teeth, and some degree of irritation and inflamitory redness about the external orifice of the urethra, these last symtoms generally attend persons who are dying of inanition, again the spirits are very much depressed, the urine becomes feeble and oblivious, the patient is also fretful and illnatured. With these there is an unpleasant odour of the breath which can be detected by some on entering the sick chamber.

Diabetes is generally a chronic disease, coming on at first insidiously and spreading itself under judicious management for many years, it is sometimes though an acute disease,

coming on suddenly, and attended with some febrile disturbances and runs a short course uncontrolled by any treatment. This disease proves fatal more frequently through the suppression of some other organic function, such as debility, it often becomes associated in its course with some pulmonary disease especially with tubercular Phthisis.

This has thought to be by some universal, as it is so often the case, but this is not so, as there have been cases of Diabetes Mellitus examined in which there was no tubercles whatever, this disease sometimes terminates in incurable dropsy, sometimes it terminates more suddenly by apoplexy, or by some disorder of the stomach.

There is some kind of connection

between skin affections and Diabetes. It usually follows cutaneous complaints, but accompanies general or spread. those in which the areolar tissue is involved, persons have been known to have chronic eruptions upon the superventions of Diabetes, or the carbuncles and boils have been known to accompany the disorder, Gangrene has been found to be a frequent occurrence in Diabetes,

There is no doubt that the vital power has been considerably lowered by the disease, and the patient is apt to sink suddenly under any mental shock, undue bodily exertion, or any unusual amount of fatigue, or anxiety. It is also seen that even these secondary diseases,

supervene the sugar frequently disappears from the urine, & thus this occurs. We are not to think that this is an index of improvement in the patients condition, but is rather a warning of danger.

When we examine the dead body we can have but little or no illustration upon the pathology of Diabetes. We look to the kidneys with much interest knowing that it is the principal function of the body concerned. We find nothing there to explain the symptoms noticed during life. They are found sometimes hypertrophied. This though we are not surprised at when we consider the hard amount of work which the glands have been performing. We regard these unnatural conditions as being a

consequences more than causes,
a the long continued flow of
unnatural urine. The task then
to find out the origin and
source of this strange malady,
where and from what particular
of the body is the source of
this abnormally formed sugar.
It was first conjectured that it
was made by the kidneys from
the blood. It was naturally
supposed that if the sugar
presided in the blood and
only withdrawn from it by
the kidneys it would be
discovered in the blood.
Yet there were many able
chemist sought for it there
in vain, hence failing to
find sugar in the blood,
then inferred by some new com
bination of the elements that
the saccharine matter was actually

formed in the kidneys, their learning and chemist were both incorrect. For since by more able chemist sugar has been found in both arterial and venous diabetic blood. The is divided with great difficulty owing to its being masked with the albumen of the serum, and its small quantity. It is reduced, in such a small quantity by its being continually discharged out of the blood as fast as it enters and with it a proportion of water also through the kidneys.
In this respect the urea and sugar somewhat resemble each other, both being worked much the blood has in haste to cast forth. Sugar had been found in the blood by some previous enquiries, but in the full exposition of this fact

we are indebted to Mr McGregor, who by this peculiar process accomplished what many of the able chemist had failed in, which has proved well and enabled our professional men more readily to understand the origin and source of this most interesting disease,

One of his experiments so very interesting, I will give a few words. By means of an emetic he obtained the digested food from the stomachs of two men who had partaking of food two or three hours before, one being in perfect health, the other had diabetes. Applying the chemical test. he found the food to ferment strongly especially that from the diabetic one. Thinking that it was not a perfect trial he varied the experiment not allowing any

radiate food is be taken., thinking that the sugar might be produced by the vegetable portion of the food, To be cleared out the alimentary canal by means of a purge and vomit, he then fed them exclusively on animal food for three days, then procuring the contents of their stomach, treated as in former case; The food from the healthy man did not ferment at all but that from the one laboring under Diabetes fermented very fastly.

From this we could infer that the cause was direct and immediately in the digestive organs, that instead of the nutritive chyle, saccharine matter was formed by the stomach, and entered the circulation unaltered. In healthy digestion there is a certain change that the food

has to undergo, which is prevented in diabetes, the food which would be transmitted into muscle, bone, fat and membrane. is turned out of the system, as sugar with the urine. We are told though by M. Claude Bernard that with all healthy persons whether their food be that of meat or vegetable, not only in persons but in all animals, there is a continual manufactory of sugar going on. the apparatus designed for this manufacture is planted in the liver, in the tissure of which sugar may be detected while every other organ of the body is perfectly destitute of it. This sugar which is formed in the liver, has been assumed to disappear in the lungs, or carried off by the capillaries of the general circulation.

Dr Bernard also speaks of an artificial Diabetes, which may be brought on at will in any animal by irritating by means of a puncture a portion of the floor of the fourth ventricle of the brain, close to the origin of the pneumogastric nerves, within an hour or two after the injury saccharine matter may be found in the urine, and this will continue until the injury done to the nervous substance is repaired. it has also been discovered that the division of the pneumogastric nerves, will cause the suspension of the sugar forming functions, from these discoveries a new theory has naturally arisen respecting the pathology of the artificial disease, from it we infer that the hepatic sugar is formed in excess and there is more than can be consumed by the lungs, or in the capillaries of the general circulation, or

the quantity of sugar formed fails, in some way to be discovered. So, in either case, the sugar thus remaining in the blood passes at length from that fluid, into the urine.
But there are two facts which strike our attention at once, as doubting somewhat with the simplicity of these conclusions. The natural secretion of sugar goes on continually in the liver of healthy persons irrespectively of the kind of food which they may take, whereas the quality of food has the most striking influence on the amount of sugar which the blood and urine contains of Diabetic persons. It has also been found that the Diabetic sugar and the sugar we get from artificial Diabetis differs very sensibly from the

sugar of true Diabetes, which resembles that of vegetable sugar derived from grapes

There is little doubt that the sugar of Diabetes is a higher quality of saccharine principle than that of the saccharine family.

In speaking of the outward causes of Diabetes we know but little, it not being a very common disorder, and those who became afflicted with it, there probably has existed a predisposition to it. Some cases the disease runs sometimes in families, and from incidents given by many authors where the disease is inherited from one family to another I cannot but think that the disease is hereditary, long continued intemperance, immoderate use of spirits and excessive labour connected with a poor account diet may

be predisposing causes, great distress and anxiety of mind are certainly predisposing causes, it occasionally seems to be brought on by the operation of some exciting cause such as exposure of the body to cold or by drinking large draughts of cold fluid while the person was hot and perspiring great many instances of the disease have been brought on by these causes.

The prognosis of diabetes is generally unfavorable, though not necessarily so. it is a malady which justly alarms those who are the subject of it as its fatality is much more frequent than its recovery, there seems to be less despondency felt about the disease now than in former days whether this is because the disease is really more common

and at the same time more mulder and more tractable than it formerly was, or whether there is more interest taking in the disease, and is more carefully looked for, and more easely recognized. Certainly we hear of many more cases of Diabetes now than in former days, and there seems to be more interest manifested towards it.

Of the well marked cases a few ~~***~~ not many have perfectly recovered. the natural specific gravity of the urine has been restored, others have gone on to slow or rapid steps to a fatal terminative, In a few cases the main symtom the impregnation of the sugar has continued for months and years without matirial deliderative of the general health. until the patient by some other illness has been

Cut off. It would seem that when the digestive organs are properly assimilating a sufficient quantity of food to sustain the bodily fabric, other portions of the aliment may run off in the form of sugar with comparative impunity to the health But even this the best state in which a person who remains diabetic can be is a perilous one. There is a great caution in which we must guard against that is a permanent conclusion that the patient is well. There may be and in fact there are many apparent recoveries and even apparent cures. this is of great importance to know.

Remedies must not be considered valueless because they may seem to fall short of their full scope, if the medicine do not make

the Patient perfectly well, that is
no reason that we should despair
and give up the use, they are
certainly useful. for it is better
to keep a man alive who has
the disease if we cannot entirely
cure him than to let him die
from the want of Medicine,
there are many patients who are
kept in this state of dangerous
safety.
There are remedies that will exercise
the greatest controlling influence
over some of the most prominent
symtoms, and sometimes even
restore the patient, to such a
state that will be mistaken for
health by the patient and
indeed the Medical Man
unwarned of its fallacious
character may be mistaken;
the urine may recede to its natural
limits, and there will remain

only one morbid circumstance, which may, and will be easily overlooked, if not searched carefully for, it is the unnatural height of the specific gravity of the urine, so long as this continues, the urine permanently and decidedly above its natural standard, there is no real security; the smallest disturbing cause such as exposure to cold or an intemperate meal or fatigue, will bring back the complaint in its former severity. if these agencies can be avoided health may in some incidents be prolonged in much comfort for many years.

I will now take in consideration the treatment of Diabetes, in every case we have three great objects to be kept in

view; the first of these is to restore the
digestive power of the digestive
apperatus whether the fault be
in that organ, or that of the liver.
The second is to restock as much
and as soon as possible the
supply of saccharine matter from
without
The third is to mitigate and
remove the most prominent symtoms,
if the first of these could be
achieved the remaining two would
be of no consequence, for the disease
which we regard as a want of
dyspepsia would be cured.
But hitherto, the resources of our
art have been baffled,
Our main hope for success must
lie in the regulation of the ingesta;
Some of the food in every case
the patient must have or he
would speedily die.
The great difficulty is in directing

a sufficient amount of healthy
nutriment for the cellular tissues
of the body. The draining away
of any superflous sugar will
be borne well enough.
The diet should be composed
exclusively of animal food,
as it has the effect of reducing
the quantity and diminishing
the sweetness of Diabetic urine,
The animal food furnishes but
scantily materials for the formation
of sugar, The saccharine alimen-
tary principals are derived from
the vegetable kingdom and
constitute what may be called
vegetable aliments. if then we can
exclude these aliments and confine
the patient exclusively on animal
food. we at least without curing
the disorder suspend its worst
effects but unfortunately not many
are capable of enduring this

mode of living, so long though as they are able to endure this, they are comparatively safe, and it is surprising to see how suddenly the saccharine properties and the quantity of urine is augmented by the least variance of the diet, a small portion of vegetable food will make the greatest difference. It is then clearly evident that the diet constitutes the principal and most important part of the treatment. for if care be taken to exclude those articles of food which contain saccharine matter how quickly we see that the patient improves His thirst will generally abate his appetite becomes natural the state of his tongue and skin improves and his weight and strenght augments.

Cases are recorded where the urine

was reduced by regiment alone from
334 to 100 fluid ounces within a
few days and the daily quantity
of sugar voided with it from
26 ounces to rather less than 4 ℥.
A patient being put upon
meat diet the Cod-liver
Oil and Laudanum, the urine
sank in quantity in five days
to 9½ f ℥, and it rose again to 216
upon the resumption of his
ordinary diet. We must contrive
then to vary the animal food
as much as possible encouraging
the patient to make choices
amongst the different kinds
of meats, game, fish &c &c.
And do without any vegetable
food as much as possible, all
kinds of fruit should be
positively forbidden. They should
be allowed but little bread and
that should be well fermented

and rather slate. It is also important to see that the patient does not eat too much animal food, as an intemperate would not only weaken the digestive organs but the patients life may be put in danger by this unwise indulgence to a ravenous appetite. The quantity of drink should also be limited: it should properly consist of ammal broths, and they be taken in moderation. When the patient has been indulged in drinks when his thirst was great caution should be taken and they should not be stopped at once. as sudden failure of the vital power ~~xxxxxx~~ has not unfrequently ensured upon abrupt changes of this kind

Numerous remedies have been prepared and recommended for this disorder I will only consider those which

have been termed the most effectual.
Bloodletting has been strongly
advocated as a very good
remedy, under small and frequent
bleedings, the strength of the
patient often increases, the dryness
of the skin, and clammines
of the mouth will often
diminish, Great care and precaution
should be taken in bloodletting
as great danger might result
from it, when too large a quantity
is taken, fatal results are on
record of this kind from
carelessness. This measure has
the best chance of being useful
and exhibiting its power, when
the disease is recent and
attended with some febrile
disturbance.
In Chronic cases in old persons,
whenever the debility is already
very great we cannot resort

to venesection as very requisite or proper
although in some cases of this kind
it is borne better than we may expect,
as local bleeding is of great service
in relieving local uneasiness.
Opium is one of the best of
medicines in this disorder; it
quiets the nervous irritability and
allays some of the most distressing
sensations, and restrains in a
remarkable manner the morbid
profluvium from the kidneys.
It also appears to controul the
diuretic influence of the sugar
in the blood, but does not banish
the sugar itself but moderates
the excessive discharge.
In administering the drug, it
is better given in the form of
Dovers Powders than given
in the narcotic substances.
From three to five grains of
the powder may be given three

time a day. If the Species which the powders contain should not agree with the stomach an equivalent quantity of any other preparation may answer. There is also another remedial measure which has a very beneficial influence on the condition of the patient, the forced perspiration. There are some examples given where it was so beneficial that we class it as one of the most excellent remedies. There is one case given in which a man was nearly well so much improved that he considered himself well, many of the symptoms were removed, but the specific gravity of the urine still remained about its natural standard; the man who was

for awhile enjoying tolerable good health, one evening very incidously exposed himself, caught cold, the Diabetic symtoms soon returned connected with some tuberculous complaint, and he soon died. Steel is sometimes beneficial in reparing the strenght and enlivening the spirits.
The bowels require attention and must be kept open by castor oil, rhubarb, aloes, &c, are more appropriate in these cases than the purgative salts, which are apt to be diuretic also. There is another drug spoken of very highly, as beneficial in Diabetes Creasote, we cannot give anything very certain or definit about this drug notwithstanding it has been spoken of, as there are not enough experiments given

to justify us in recommending it, the case in which "Dr Watson speaks of was when the strick regiment of diet was carried on so the diet was deserving of as much credit as to the improvment of the patient as the Creasote was, which was administered at the same time, The principal part of the treatment of Diabetic persons is the Diet they should be confined strickly to animal food, and vegetable food of every description should be prohibited,

Now as I have brought to a close my somewhat prolonged and I fear tedious Dissertation for which I would offer an apology, feeling but too confident that I have far from done justice to my subject! having chosen

for the many subjects on which I am able to give but few practical views upon, I cannot but give but what I have collected theoretically from the many authors upon the disease Urolithiasis. I trust my imperfections have been overlooked with an indulgent eye.

Before taking my final adieu I would fain extend a slight need of praise, and my most sincere thanks to the Professors of the "University of Maryland" and also to my preceptors for their unremitting endeavours to inculcate their beneficial doctrines into a mind perhaps too inattentive. Alas! one of their numbers has been called from his sphere of usefulness by an all wise Dispenser, never more will his instructive voice be heard in the Halls of Science.

never more his consummate skill
alleviate the sufferings of
humanity, never more his general
erudition delight and benefit
his associates, nor his high vetus
edify his large circle of friends,
but to us his pupils does the
loss appear especially irreparable,
it only behoves us having been
fortunate to receive the advantage
of his instructions to nurture
it carefully, and by walking
faithfully in the path our wise
and high toned professor has
marked out for us, show our
appreciations of his teachings,
Excepting this sad event my
reminiscences of my Alma Mater
have been only of the happiest
nature, I assure you I will
ever remember my Alma Mater
and her respected professors
The many happy hours I have

spent with their [illegible] [illegible] [illegible]
and in the Baltimore Infirmary
I will always look back upon with
pleasure, and they shall ever be
cherished among the most happy
reminicences of my life.

Inaugural Dissertation

on

Apoplexy

submitted to the Examination

of the

Provost, Regents, and Faculty of Physic

of the

University of Maryland

on the degree

of

Doctor of Medicine

by

[illegible]

Maryland

[illegible]

A visitation of this dreadful affection is very seldom experienced without the occurrence of symptoms to warn the patient of its probable approach. There are but few instances I find of any kind of severe disease occurring without some premonitory symptoms, but they are not often so unequivocal as those which indicate the tendency to apoplexy. To the Physician such symptoms are of much more importance than those of the fit itself, and they accordingly require the most serious attention from the Physician.

In order that the premonitory symptoms may be made clear they may be arranged, according as they affect the head, generally, the external senses, the internal senses, or the organs of voluntary motion.

To the first-class belong pain in the head, generally a dull pain with a sense of weight-but-occasionally a more acute pain accompanied with the feeling of the head being bound around by a cord or wire, giddiness, tinnitus aurium, staggering or any attempt to turn the head quickly around, throbbing of the temporal arteries. To the second class we find, transient deafness, ringing in the ears, epistaxis, obscure vision, and transient blindness.

To the third we find, stupor, drowsiness, incoherent talking a state resembling intoxication, disturbed sleep, failure of the memory, and loss of temper. To the fourth we find, twisting of the mouth, falling of the eyelids, numbness and weakness of the fingers, dragging of the limbs and

stammering. After experiencing one or more of these warnings for a longer or shorter time the patient falls into the epileptic fit. Most usually in apoplectic fits the patient falls down suddenly deprived of sense and motion and lies like a person in a dead sleep. The patient neither sees, hears, nor feels. Unconscious of every thing around him he is alike insensible to all the exertions of his medical attendants and the anxieties of his friends. That feature of the disorder which most immediately impresses itself upon the notice of the observer is the suddenness of the attack and being so very general the disease has from this circumstances in all ages received its name.

An other form of apoplectic seizures commence by a sudden attack of violent pain in the head, accompanied with paleness of the face, sickness at the stomach, vomiting and transient loss of recollection. The patient in some instances falls down in a state resembling syncope, but recovers in a few minutes and is able to walk about. After a few hours however the pain in the head continuing, he becomes oppressed and gradually sinks into perfect coma. Apoplectic seizures of the third kind, begin with a sudden attack of palsy of one side with loss of speech, which after the lapse of some hours passes gradually into apoplexy.

There are certain appearances presented during the continuance of the apoplectic fit, which merit the attention of the physician

The face is generally pale the cornea dull and glassy and the pupils permanently dilated. The teeth are closely clenched and the power of swallowing though seldom wholly lost is for the most part so much impeded as to oppose the most serious obstacles to the administration of remedies. The bowels are torpid as is usual in all cerebral oppressions and they resist the action even of the most powerful cathartics. In blood drawn from the arm the coagulum is comonly firm and in most instances buffy. The duration of the disease varies from two or three hours to as many days. Thirty hours may be called the average duration of the disease. Cases of sudden death from [illegible]

are on record but in many of these there are grounds to suspect that the immediate cause was to be found in some affection of the heart or large vessels in its immediate neighborhood rather than in injury to the brain. Genuine apoplexy commencing in the manner described, and attended with all the symptoms just enumerated almost always ends fatally. When a recovery it is perfect temporary or partial takes place it will usually be found that some of the more decided evidences of perfect coma have been wanting, the patient has given evidence of feeling when his limbs are grasped, or the lancet used, the pupil has obeyed in a certain degree the stimulus of light, the mouth has not been drawn

closed, nor the power of swallowing wholly lost. There has been no foaming at the mouth, nor stertorous breathing, nor were the premonitory symptoms strongly marked.

Under such circumstances our prognosis may be somewhat more favorable, though it should even then be guarded by the reflection, if recovery does take place it is seldom complete. An incurable palsy may remain or the memory wholly or partially fail or an imbecility of mind approaching to mania may be felt. In every case where a decided apoplectic fit has been experienced a relapse is to be dreaded and the recovery from a second attack is a rare event. If the disease last for more than one day it is generally incurable.

Resuscitation after apparent death sometimes
occurs after apoplexy we should be cautious there-
fore with regard to burial. The opportu-
nities which the fatality of this disease has
afforded to the physician for extending his
researches into its nature and seat has
not been lost, and we have accordingly
a most extended record of the appearances
found on dissection in apoplectic cases.
Blood extravasated in some part of the encepha-
lon is by far the most common appearance,
and is that which is generally to be anticipa-
ted. This extravasation of blood may
take place between the membranes of the
brain, on its surface, at its base, or
in the midst of its substance, and the
violence of the symptoms depend partly upon

the quantity and seat of the extravasated blood.

An other very usual appearance in those who die of apoplexy is the effusion of serum either upon the surface of the brain or within the ventricles. In other cases we meet with turgescence of the smaller vessels or of the sinuses of the brain, but without effusion either of blood or serum. These are the common appearances presented by those who die of apoplexy and with all this there are cases in which the head presents nothing morbid or uncommon, under these circumstances it is supposed that effusion may have taken place but in a degree so minute as to escape observation, or that the appearances may have existed but were overlooked in the hurry of examination, or that there may have been morbid

phaenomena present during life which disappear before dissection and again it is supposed that in some parts of the body other than the head, that the cause of death existed, and which by close examination might have been found out. The general tendency of these arguments are disproved in particular cases by an extended survey of the chronic derangement of the brain and nervous system. From medical authors the predisposition to apoplexy has attracted much attention and many contradictory opinions have been brought forward with reference to it. In apoplectic subjects we find certain conformations of the body which attract our attention. A large head, a short thick neck, a florid complexion, broad shoulders. short

stature, with a tendency to corpulency are the leading features of the apoplectic figure. Yet apoplexy is sometimes met with in those who have a pale countenance.

Certain periods of life have a bearing with regard to this disease as it is chiefly brought on between the fortieth and fiftieth year, as life advances the tendency increases. In early life it is rarely met with but cases are recorded between the twentieth and thirtieth year. Such habits of life as tend to produce plethora generally, to drive the blood in more than ordinary quantity upon the vessels of the brain or to prevent its free return to the heart have a tendency to apoplexy. Hence it is that full living, habitual intoxication, sedentary pursuits, &c.

great indulgence in study, intense and long continued thought, too great indulgence in sexual intercourse, have always been accused of leading to apoplexy.

It is held by many that the liability to the disease in aged persons is owing to an ossified or otherwise diseased state of the coats of the cerebral arteries.

While we acknowledge that the rupture of a blood vessel within the cranium may originate from a diseased state of the coats of the arteries, we must not forget that in probably a larger number of cases it is merely the result of a morbid action of vessels, similar to that which takes [illegible]

bidual exercise, distention of the stomac

[illegible] full [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] spirits, straining to evacuate a costive stool, severe fits of coughing, stooping, violent passions of the mind, are the principal exciting causes of apoplexy.

Heat and cold in an extreme degree may excite apoplexy. An apoplectic attack occasionally occurs in fevers, small pox, rheumatism, hooping cough, and more frequently in organic disease of the heart. A long course of mercury, opium, tobacco, or the inhalation of carbonic acid gas may tend to produce it also.

As to the proximate cause of apoplexy it must be acknowledged to be of no small importance. Interrupted circulation, effusion, and pressure, are the speculations concernin

its proximate cause. [illegible] At last the apoplectic state is the [illegible] morbid conditions of the system.

Effusion of blood within the cranium may take place in the brain [illegible] in their crura, in the pons varolii, and in the medulla oblongata; in the corpus callosum, in the ventricles, on the surface of the brain beneath the pia mater, and in the cavity of the arachnoid between this membrane and the dura mater, and between the dura mater and cranium. From cases recorded it has been found that certain parts of the brain are much more liable to sanguineous effusion than others. The corpora striata and optic thalami are the parts in which the most frequent forerunners of cases has occurred.

As to the treatment of apoplexy there are
[illegible] in cases [illegible] the same
management for it must be varied accor-
-ding to the age and constitution of the
patient or the severeness of the attack.
In the actual paroxysm of apoplexy the
patient should be moved into a spacious
apartment, the cool air freely admitted
around him, his head should be raised,
ligatures of all kinds especially around
the neck should be removed and the
legs and feet may be placed in warm
water. In strong disease with active
determinations to the head, [illegible]
pulse, and carotids beating strongly, [illegible]
a powerful remedy and blood-letting has
at all times been resorted to as holding

out the best prospect. A full bleeding should then be employed, the head shaved and [illegible] leeched and the patient may be cupped on the temples and the back of the neck. Many objections have been urged against bleeding but it is still practiced and must ever continue to be employed.

In the most aggravated form of this disease indeed neither bleeding nor any other remedial means can reasonably be expected to effect a cure but there are no grounds for believing that with common caution the danger of the patient is increased by it.

No one would certainly venture to advise repeated and indiscriminate abstraction of blood without reference to its effect or to any of those rules by which we regulate

the abblication of the lancet in other cases.
"His" would be a blameable empiricism but
at the same time the student should feel that
blood-letting is the only effectual remedy in
apoplexy and he should not be discouraged
from it by any theoretical notions.
The observations of many practitioners
have disposed the employment of bloodletting
and rather to establish the dangerous
nature of the disease than the impropriety
of the practice. It is true that the
blood which has been actually extravasated
cannot be removed by bloodletting, but
we may prevent further effusion and
less general compression. In slight
cases of apoplexy we may by blood-letting
relieve the excitement and tension of the

vessels within the head and possibly fresh effusion altogether. Therefore on the first attack blood should be drawn from the arm to the extent of one or two pounds and this should be repeated in four or five hours afterwards unless very unequivocal symptoms of amendment have appeared.

The propriety of pushing the bleeding further must be determined by the peculiar circumstances of the case. It should be born in mind that from six to eight pounds of blood have been taken from a person by no means robust before the disease began to yield. At the same time attentions must be paid to the constitution of the patient, and it must be born in mind that a practice highly proper and beneficial in persons of

corpulent habits, firm muscle, and florid complexions would probably be detrimental in emaciated subjects with flaccid muscle, cold extremities and a small thready pulse. It has been observed by some writers that slowness of the pulse, debility, and irregular and interrupted respirations are the effects of compression on the brain, therefore as as a general rule it is proper to bleed in every case of apoplexy.

The advantages of opening the temporal artery or the jugular vein in preference to bleeding from the arm have often been insisted on but apparently without sufficient reason. It is enough that the evacuation be made in a full stream and carried to such an extent as to affect the system. Cupping from the nape of the neck is a powerful means of relieving

tusion within the cranium and as an auxiliary may be resorted to in apoplectic cases with a fair prospect of advantage.

In some constitutions it may even supply the place of general blood-letting.

The violence of the attack, the duration after the effect of previous evacuations, the appearance of the blood if sizy or otherwise, the state of the circulation, the relief of the bleeding, the removal of the flushed face, and the restoration of reason, all indicate when a sufficient quantity of blood has been taken.

In the application of blisters the greatest caution is required as they can only be applied with safety to the calves of the legs and soles when bleeding has been sufficiently practised.

The patient may be placed in commencing in

nearly sitting posture the trunk inclined and the legs hanging down. The administration of brisk drastic cathartics are attended with the best results their derivative action being a powerful means of relieving coma but the clenching of teeth and the paralytic state of the organs of deglutition often render their administration extremely difficult. Croton oil is the purgative generally used though in some institutions Calomel and jalap are also given, and considered one of the best purgatives that can be given. Drastic enemata will also be found to be beneficial. Cold ablutions to the head, as iced water in pouring a small stream of cold water on the scalp occationally have been found to be

advantageous in some instances and are certainly preferable to blisters.
When an attack of apoplexy is known to follow in [illegible], the stomach is loaded with indigestible food an emetic of the sulphate of zinc may be given as it evacuates the stomach with the least possi-ive straining and is therefore preferable to other emetics. These are the only principal means of generally acknowledged efficacy which we possess in the treatment of apoplexy.

Something must be allowed to time and the powers of nature.
Apoplexy being so very fatal a disease it is incumbent on the physician in all cases where he has reason to suspect a predisposition to it

to employ steadily such means or measures as are calculated to avert the danger. A cool climate, diet, regular exercise, abstinence from all liquors, spirited or fermented, confining the patient to the usual number of hours allotted to sleep, and by establishing a drain by means of an issue or seton, are the means on which his chief reliance should be placed.

Immediately after a fit the diet should be excessively low, it is recommended by some authors that the patient should be without food entirely for several days except a moderate quantity of diluent drinks. Animal food should be dispensed with, and the antiphlogistic plan pursued throughout. The diet being mild, natural, and

laxative. All excesses should be avoided, as violent exertion, lifting great weights, walking fast up hill, hot and stimulating drinks as wine, tea, or coffee late suppers, all sudden emotions as fright, anger, or joy, sleeping immediately after meal and hot sun.

When the patient feels any [illegible] to the head, blood may be taken by cups or leeches, [illegible] the [illegible] or the back of the neck. [illegible] or seton kept open between the shoulders is a good preventative more particularly in those cases which arise from a suppression of some discharge.

The [illegible] of antimonial powder in constitutions predisposed to this [illegible] of sanguine congestion and [illegible] [illegible] of [illegible] writers.

An Inaugural Dissertation,

on

Acute Peritonitis.

Submitted for Examination,

to the,

Regents, Provost, & Faculty,

of the

University of Maryland

for the

Degree of Doctor of Medicine

by

Elmore Smith.

Feby. 24th 1864.

Baltimore. Md.

To.

Prof. Saml. H. Chew, as a mark of respect, for his kindness, and urbanity to the Medical Student.

His great Erudition as a scholar, His christian and social virtues as a gentleman, this feeble effort is most affectionately ascribed by the Author.

Acute Peritonitis.

In accordance with established rules of the University of Maryland, I have selected for a thesis the theme of Acute Peritonitis; a disease which for years has baffled the most skillful treatment. Until progressive Science, and perfected pathological research, have thrown such a light upon its character and treatment; that death is the exception, and not the rule.

The Peritoneum is an extensive complicated serous membrane,

which extends from the diaphragm, (including the cavity of the Pelvis, which forms its lower part,) to the Levatores Ani muscles below, and from the Transversales muscles in front, to the spine, the Quadrati Lumborum, and Iliaci muscles, behind.

This membrane like all other serous tissues is peculiarly subject to inflammatory action, especially in parturient women.

The exciting causes of the disease in question are mainly exposure to cold

and external violence; the formation of ulcerations, which perforate the intestines, and permitting the contents of the alimentary canal to escape into the Peritoneal cavity; Extravasation of Urine into the Peritoneal Sac; and a peculiar poison, with which the blood of the patient, is far too often inoculated, by the hands of the accoucheur, which are of necessity brought into contact with the Uterine fluids of the newly made Mother.

Peritonitis is much more

rare as an idiopathic affection among Childdren, than adults; for which Dr West, in his work on diseases of Childdren seems to assign the following reason. in speaking of Peritonitis he says "The tendency of inflamatory disease in childdren appears to be to attack the mucous rather than the serous membrane. a fact of which we have the following illustration, in the comparitive rarity of acute pleurisy in the Child." That form of Peritonitis which gives rise to adhesions between the intestines, and

the pouring out of serum, and lymph, into the abdominal cavity occurs during intra uterine pregnancy, and results in the death of the foetus. We are not certain to what cause to attribute this form of the disease, but we are induced by some of the best authors to believe, that it is seperable to traces of Syphyletic poison or other venerial taint, in the Mother.

Dr. West relates the only case of Peritoneal inflamation, in early infancy, which had fallen under his observation.

The case was that of a child, (boy) five weeks old, whose Mother had been twice confined with still born children; this child began to have the snuffles at the age of three weeks. In a short time after copper colored sores began to show themselves about his face, his scrotum next became sore, and his voice husky, lips cracked, at the end of the fourth week, he began to be sick, his abdomen enlarged, and grew tender, the child was extremely small and greatly emaciated, the skin of his face wrinkled, and his

general appearance was that of distress. His Mother who did not suffer at that time, from any Syphilitic symptoms, was put upon a mild Mercurial treatment, combined with Solapal Iodidi, and Sarsaparillae. And the Hydrg. cum Creta was administered to the child. By degrees the spots disappeared, the abdomen grew less swollen and tender and the infant regained perfect health.

Exploration of the abdominal region may be made by the senses of sight, hearing, and touch. By the touch we learn the

existence, and size of tumors, deter-
mine their quality wether fluid or
solid, moveable or fixed, painful
or indolent, hard or soft. The
exploration by this method, is often
verified by means of auscultation,
thus with the stethoscope we
are enabled to decide the
important question, wether or not
a pulsating tumor be an anev-
rism or not.
Acute Peritonitis is usually ushured
in by strong and well marked
symptoms, viz chills or sharp
rigors, pain in the abdomen
increased by pressure, and
attended by fever, a strong hard

pulse which often becomes weak and feeble. The pain is increased, when the patient sits up, by his drawing a long breath, coughing and sneezing. It is sometimes circumscribed, but it soon becomes diffused over the whole abdomen. Even while it is thus restricted, pressure will increase the suffering, for the reason, that in a shut sac like the Peritoneum you cannot apply pressure, without compressing the whole cavity.

The patient is found lying upon her back, as she cannot without increasing her suffering lie in any other posture.

with her thighs flexed upon her
Pelvis in order as much as possible
to relax the abdominal muscles.
She lies still from the fact,
that movements of any kind,
increase her now almost insup-
portable pains.
The respiration is quick and shallow,
because the decent of the diaphragm,
in inspiration, presses upon the
membrane; breathing is performed
by the Intercostals muscles, and
the abdomen remains motionless,
this is a strong diagnostic sign.
Unless the patient be Hysterical when
found with the above mentioned symp-
toms, it may be safely pronounced ha

she suffers from the formidable malady, of Acute inflamation of the Peritoneum. The pain which generally accompanies this disease is sharp and lancinating in its character, and is often much aggravated at intervals. The tension, and swelling in the early stages are tympanitic; this is made known by percussion over the abdomen. Enlargement is sometimes occasioned by the effusion of serum, or the bursting of a tumor. It was this that the Great Emperor Napoleon died. The presence of such effusion is revealed by palpation, showing fluctuation in the abdomen.

The prognosis is usually unfavorable. As it advances towards a fatal termination, the abdomen is not unfrequently much distended, pulse frequent and feeble, countenance expressive of much anxiety, and ghastly, cold sweats ensue and the patient expires by asthenia, death beginning at the heart. Hickup and vomiting sometimes accompany the other symptoms; when strangury occurs, that part of the Peritoneum, which is reflected over the bladder is thought possibly to be involved. Inflamation of the part in the region of the Kidneys, may according to Dr. Abercombie effect suppression of the Urine.

Having given as correct an account, of the causes and symptoms of Acute Peritonitis, as I am able aided by such authorities, as Drs. Watson, West and Abercombie; I come next to the consideration of the remedial or curative treatment.

And first, as in all adhesive inflamations of serous membranes I mention the great benefit to be derived from bloodleting. It is of the highest importance, when at all necessary, that this agent should be resorted to at an early period. Nor must we be induced to swerve from our duty in this respect on account of the

smallness of the pulse, because this quality is characteristic of inflammation within the Abdominal Cavity. Topical bleeding by leeches is more efficacious, in this, than other abdominal inflamations.

Cupping is prevented by the tenderness of the Abdomen. In adults after bleeding from the Arm until approaching syncope shall mark the impression made upon the circulation, it is highly recommended to place from twenty to forty leeches upon the abdomen.

Our second remedy, which by some has been called the sheet anchor in many diseases is

Mercury combined with sedative doses of Opium. Cold applications, are also very soothing. The application of terpentine stupes is often of great advantage to the patient. When the abdominal tenderness has been lessened by blood letting a warm poultice, or a warm hip bath may be directed with hopes of affording much relief.

Should the case terminate favorably, the convalescence must of necessity, be slow and tedious.

When we have governed the inflamation, the next indication is to support the

patients strength, by the employment of barks, kinos, animal broths and farinaceous substances with milk. Being cautious however with regard to the administration of solid and indigestible food. All of which is most respectfully submitted by.

T. Emory Smith

A. Thesis
On
Gun Shot Wounds
Submitted
To the
Provost, Regents,
and
Faculty
of the
University of Maryland
For the
Degree of
Doctor of Medicine
By -
Alexander Rutter
of
Baltimore
Md.
February 18[illegible]

"'Tis by magic art the youthful mind,
To train to cut, the springs of life to find,
To wield the saw, the glittering blade to ply,
And this accomplished, teach the man to=die."

Gun Shot Wounds

Are produced by hard, obtuse, metallic bodies projected from Cannon Muskets, or other species of Firearms, with these it is usual to Comprehend those wounds, arising from the explosion of Shells, or the violence with which pieces of stone from Ramparts, or splinters of wood on board of ship, are driven about - They are the most considerable wounds of the contused kind, and what is said of them, will apply more or less, to all contused wounds, according to the degree of contusion -

The excessive contusion and violence observable in Gun Shot wounds depends upon the rapidity, with which the bodies occasioning them are propelled -

In genral Gun Shot wounds do not bleed much, unless large

blood vessels be injured, their circumference is often livid, and the shock that attends their infliction, or the injury done to the nerves, may occasion in the limb or part, a kind of Torpor, sometimes extending to the whole system. But no invariable train of symptoms can be laid down, as its necessary concomitants, on account of its differing so materially in different men, and the appearances are so various according to the nature of the part wounded — and the greater or less force, with which it has been struck —

When a Musket or Pistol ball, has struck without injuring any material blood vessel, we see a hole about the size of, or smaller than, the bullet itself — with a more or less discolored lip forced inwards, and if it has

passed through the parts, we find an everted edge, and a more ragged and larger orifice, at the point of exit — The Hemmorhage in this case is very slight, and the pain inconsiderable —
If the ball however has torn a large vessel the hemmorhage will be profuse, or the pain severe, and the power of the part lost —
Some men will have a limb carried off, or shattered by a ball, without exhibiting the slightest symptom of mental or corporeal agitation — while a deadly paleness, instant vomiting, profuse perspiration, and universal tremor, will seize another on the reception of a slight wound —

In Gun Shot wounds another circumstance is observed, which is often remarked in other cases that where a large artery is

partially divided. The bleeding is more profuse, than when the vessel is completely severed — Cannon and Musket balls sometimes produce dreadful degrees of injury, without occasioning any breach of continuity in the integuments, the muscles and bones, may actually be crushed, and broken, to atoms, without the skin being wounded — These have been very erroneously termed wind contusions. The mischief attributed to the air is occasioned by the ball itself, and the injury is to be ascribed, to the oblique direction in which it strikes the part. or in other instances, having lost its momentum, and acting principally by its weight, being what is called, a spent ball — Observation teaches us that balls which strike obliquely, are reflected,

though impelled by the greatest force, and the body struck may be as soft and yielding as water. This alteration in the course of the ball, not only happens on the surface of the body, but also in the substance of a limb which it has entered, thus a bone, tendon &c, may change its direction — The causes of several of the peculiarities attending Gun shot wounds, are to be sought among the laws by which, moving bodies are governed, the form the momentum, and the direction of the shot which is received, The position, and variety of structure in the part receiving it, must be considered, in order to account for the effects which it produces — A ball striking a body may cause four kinds of injury. 1st. It may only occasion a contusion, without

penetrating the part. 2nd It may
enter and lodge, in the substance
of the part. in which case there
is only one aperture. – 3rd It may
pass entirely through, then there
are two openings. one of entrance
the other of exit of the ball, in the
former there is more contusion
than in the latter – 4th A Cannon
ball may tear away a whole limb.
Gun shot wounds differ much
according to the kind of body
projected, its variety, and the
parts wounded. The projected
bodies are mostly bullets. Cannon
balls. pieces of broken shells, and
on board of ship splinters of wood –
On account of the contusion which
the parts suffer from the violent
passage of the ball through them,
there is commonly a part of the
solids surrounding the wound
deadened – which is afterwards

thrown off in the form of a plough, preventing such wounds from healing by the first intention and making most of them necessarily suppurate, though this is not always the case— Foreign bodies more frequently lodge in Gun Shot wounds, than any others, and are commonly of three kinds— 1st Peices of clothing or other things which the ball forced before it into the limb— 2nd The ball itself. 3rd Loose splinters of bone,— and are the cause of numerous unfavorable symptoms, by irritating sensible parts, and exciting pain, inflammation, hemmorrhage, large suppuration, &c— The more uneven and pointed they are, the more likely are they to produce these evils— The great obliquity, and length of the fissures, produced in

the Cylindrical bones. by Musket balls. are such as are not remarked in common cases of Fractures— When the ball strikes a bone. the concussion produced is another cause of bad symptoms to be added to those already named. when slight its effects are confined to the injured limb— but sometimes they extend to the neighboring joints, in which they produce inflamation, abscesses &c. A curious effect occasionally follows Gun shot wounds, viz inflamation and suppuration of some internal viscus, especially the Liver— according to Mr Guthrie many patients in the Peninsula who had undergone, secondary amputations for Gun shot injuries were destroyed by affections of their Lungs. Liver &c— The inner surface of Gun shot wounds. being often

more or less deadened, they are
late often in inflaming, from
this cause also. Gun shot wounds
frequently cannot be completely
understood in the first instance
for in many cases it is impossible
to know, what parts are killed,
whether bone tendon, or soft part
nor can this be ascertained until
the slough seperates, which often
makes the wound more complicated
than was previously immagined—
For very often some viscus, or
a part of it, or a part of some
large artery, or even a bone has
been killed by the violence—
If a portion of a large intestine
has been wounded, the contents
of the bowel will begin to come
through when the slough seperates—
or if a portion of a large blood
vessel be destroyed, a profuse
and even fatal Hemmorhage

may occur, when the slough is detached, although no great quantity of blood may have been previously lost -

When a ball moves with little velocity, the mischief is generally less, the bones are not so likely to be fractured, the parts are less deadened &c - However when the velocity is just enough to splinter a bone, which is touched, the splintering is generally more extensive, than if the impetus had been much greater, in which case a piece is more likely to be taken out -

When the ball moves slowly, it is more likely to be turned, by any resistance, it may encounter in its passage, through parts, and hence the wound is more apt to take a winding course - When it enters a part, with great

velocity; but is almost spent before it comes out again, in consequence of the resistance it has met with. There may be a great deal of ploughing about the entrance, and little or none about the exit, owing to the different degrees of celerity with which it traversed the parts. In some cases of Gun shot wounds, the openings are diametrically opposite each other, in others they are not so, the direction having been changed by the resistances met with. Dr. Hennen mentions an instance, in which a ball entered near the Pomum Adami and after running circuitously around the neck, was found in the very orifice, in which it had entered. This circuitous route of balls is of very frequent occurrence, for they are

turned from a direct line by the least resistance —

The yellowish, livid line around Gun shot wounds is a sort of Ecchymosis, or extravasation of blood — The injured member is often benumbed and stupified, and when mortification occurs it spreads with extraordinary rapidity, When the whole system is thrown into this kind of torpor the most fatal consequences are to be apprehended,

In cases of Gun shot wounds Syncope sudden shiverings, and nervous symptoms are not unfrequent —

When there is only one opening we may infer, the wound contains a foreign body, an exception to this occurs however, when a ball instead of tearing the clothes, or linen, carries a

portion of them, in the form of a sack, into the wound, and when they are withdrawn, the balls fall out. It is possible for a ball to be stopped immediately on entering the body, and then to be ejected by the elasticity of the parts, against which it strikes as the Cartilages, Ribs &c —

When there are two apertures made by one shot, the ball has escaped, but pieces of clothes &c may still be lodged in the part. Care must be taken however, not to confound with these cases others, in which the plurality of openings has been made by different balls —

It is not an uncommon thing for a ball in striking against the sharp edge of a bone, to be split into two pieces, each of which takes a different direction, sometimes one piece

remains in the place which it struck, while the other continues its course through the body. The most frequent examples of the division of bullets are produced by the ball striking against the Spherical surface of the Cranium, it sometimes happens that one portion of the ball enters while the other remains without the Cranium or passes over its external surface - Not unfrequently in these injuries the balls are lodged between the two tables, in some instances much flattened, in others without their form being changed - From these facts it must be evident, that even when a Gun Shot wound has two orifices the Surgeon cannot be certain, that the bullet has not been divided, and that no portion is lodged, unless the entire ball happen to be found -

They are also highly important in a Medico Legal point of view - because foul play has been suspected in Duels. where two peices of a split ball have been found - and Surgeons called upon to decide the charge, whether two bullets were placed in one barrel of the weapons or not -

It has been long known, that a limb may be torn or shot off even near to the trunk of the body and hardly any Hemmorhage occurs - Sometimes after these injuries, the Arteries do not bleed in Amputations. Sometimes the contusion produced by a Cannon ball, or the passage of a bullet in the vicinity of a large Artery, seems to cause a laceration of the inner coat of the vessel, and a subsequent obliteration of its cavity by the effusion of coagulable lymph -

As the ends of the torn vessels are contused and compressed; Gun shot wounds have at first less propensity to bleed seriously than other wounds, unless vessels of importance happen to be wounded, in the beginning there may be even little hemmorhage, though a considerable artery be so hurt, that it afterwards sloughs and a dangerous, and fatal bleeding takes place -

Angular uneven bodies, such as peices of iron, cut Lead &c produce far more dangerous wounds, than round bodies, like leaden bullets.

Wounds occasioned by small shot are frequently more dangerous, than others produced by larger balls. because their track is so narrow it cannot be traced - nor the extraneous body itself extracted; Such a shot often injures a viscus, where there is not the smallest external symptom

of the occurience, sometimes great part of the danger, also arises from the number of shots which have entered.—

Having considered the causes, symptoms, and, complications, of Gun shot wounds, with some of the leading peculiarities attending their infliction, I shall next note some general rules in regard to their proper,

Treatment, The first thing in the treatment of a Gun shot wound in one of the extremities, is to determine the necessity of immediate Amputation, or to undertake the cure of the wound. When a bone especially at a joint is very much shattered, and the fleshy parts particularly the great blood vessels and nerves are lacerated, when the whole limb has suffered a violent concussion, and is cold, and senseless, there is no hope of preserving it.— In this case the Surgeon should

Amputate at once, and not to delay
till inflamation, fever, and a tendency
to mortification, come on.

But besides the violent degree of
injury in which Amputation is
obvious there are several lower degrees,
in which it is often a difficult
thing to decide whether the operation
be necessary or not. Here the Surgeon
must look not only to the injury,
but also to the patients constitution,
and even to external circumstances,
such as the possibility or impossibility
of procuring good accommodation,
rest, pure air, and attendance.
There are no general rules applicable
in every case, and the Surgeon must
consider the peculiar circumstances
before he decides. The grounds
against the operation are, the pain
which it causes at the period
when the whole system is
disordered by a terrible injury, the

privation of a limb, and frequent examples, in which nature aided by judicious surgery repairs the most horrible wounds.

There are some reasons laid down in favor of the operation, by it the patient gets rid of a dreadful contused wound, which threatens the greatest peril, and which is exchanged, for a simple incised one. The pain of the Amputation is not of more moment, than the pain which the requisite incisions, and the extraction of foreign bodies would cause, in case the operation were abandoned. If an operation is deemed necessary it should be performed immediately above the wound.

In regard to the dilatation of wounds should Amputation be deemed unnecessary, it should never be practiced, except for the extraction of foreign bodies, as balls, splinters of bones, and

other extraneous substances, or for facilitating the application of ligatures to bleeding vessels, for such dilatation generally increases the inflamation, which is so much to be apprehended, and experience teaches that wounds, which are not dilated, commonly heal more speedily, than others which are.

The extraction of foreign bodies, ranks as one of the most urgent motives for the dilatation of the wound, and no doubt it is right to remove at first as many of them as possible, their lodgement irritates the wound, causes violent nervous and inflamatory symptoms, and copious suppuration, circumstances which the timely extraction of them may prevent — Yet it must be remembered, that the extraction of foreign bodies, is frequently attended with immense irritation, and that while they

lie so firmly fixed in the parts.
it is often a matter of impossibility.
After suppuration has been established
the extraneous substances, become
loose, spontaneously approach the
surface, and easily admit of removal.
Hence it is prudent generally
to extract only such foreign substances
as are near the surface of the
opening, quite loose, and removable
without much irritation, or such
as press parts of importance, and
thereby excite dangerous symptoms.
Those which are more deeply and
firmly lodged, the surgeon should
await suppuration, and the
detachment of the sloughs, and when
the foreign bodies become movable
and apparent, remove them, with
or without an incision as circum=
=stances may demand.
The examination of a wound, ought
to be made, as much as possible

with the finger, which irritates less, and feels more distinctly than a probe -

The issue of the treatment above given is various, Extraneous substances remaining in the wound either loosen gradually, or come into view so as to be removed, or they remain concealed, prevent cure, and give rise to a fistulous ulcer, in some instances the wound closes and the foreign substance remains in the limb during life, without inconvenience, in other cases after a time, they bring on a renewal of inflamation and suppuration, sometimes it varies its situation, sinking down, and bringing on the same symptoms in a different part.

When a ball lies immediately under the skin, or near it, cut down upon and extract it - but when it is

three or four inches from the surface and cannot be distinctly felt, no incision should be made, with a view of extracting it. Sometimes the ball penetrates the spongey part of a bone, and lodges firmly in it, as a general rule it should not be allowed to remain there— It should be removed by an elevator, Screw bullet drawer, or the Trephine, if allowed to remain it may cause caries of the bone, disease of the joint Amputation, or death. In the shaft of a long bone necrosis generally follows—

As soon as the requisite incisions are made, and foreign bodies extracted. the prime objects in the treatment of Gun Shot wounds are accomplished. and the remaining treatment differs little from the Surgery of other wounds.

With regard to probing Gun shot

wounds. when it is evident the shot has passed out, and no particular object can be fulfilled with the probe, it is better to dispense with such examination, at least till Suppuration has come on. Introducing any instrument is generally productive both of pain and irritation. but when the ball or other extraneous substance has lodged in the wound, and its situation is not immediately evident, it will often be advisable to search for it at once, in order if its situation allows, it may be extracted before inflamation begins—

The Surgeon therefore after considering all the circumstances which can assist him in forming a reasonable conjecture of the course of the wound, must give to the probe that curvature, which he thinks will reach the ball, and proceed to an

examination, but when this is painful, and the course of the ball obscure it must be abandoned and suppuration waited for. When the wounds are much inflamed, the tenduness and swelling of the parts are peculiarly strong reasons against painful probings—

The cramming of Gun Shot wounds with Lint is particularly hurtful, and the only grounds which would justify it. is placing it there to prevent the confinement of extraneous bodies, matter &c, The first dressings should be quite superficial, and of a mild and inirritating nature— in most cases a simple pledget of lint, and covering the part with linen bandages. wet with cold water— In regard to the application of cold dressings to the wound, in a large proportion of cases they are beneficial for the first three

or four days- It is not however an infallible, or always advantageous application. there are many persons with whom they do not agree, and more with whom they disagree after a certain period- It does no good in any stage of inflamation when the sensation accruing from the first application of it. is not agreeable to the patients feelings- if it produces a sensation of shivering, or an uncomfortable feeling of any kind, with stiffness of the part, it is doing harm, and a change to the agreeable sensation of warmth, will prove both advantageous and agreeable, this occurs in general about the period when suppuration has taken place, and cold in such cases is preventing the full effect of the action, which warmth encourages. Fomentations are therefore proper, and poultices

of Bread, Carrots, Linseed meal and other farinaceous substances, will be found convenient. In all cases where a poultice is resorted to, as much attention is to be paid to the period of removing, as of applying it -

It is used to alleviate pain, stiffness swelling, the uneasiness arising from cold, and to encourage the commencing or interrupted action of the vessels towards the formation of matter, as soon as the effect intended has been gained, the poultices should be abandoned and recourse had to simple dressings again - Cold applications ought never to be applied, where the torpor, low temperature, and languid circulation in the limb indicate a risk of Gangrene - Hence when a principal artery is tied, their employment is always wrong and hazardous -

Rollers ought not to be applied to recent Gun shot wounds, for

they soon become stiff and bloody, are cut. and seldom preserved after the first dressing, so as to become useful when their application is required - Setons should not be used with a view to prevent the closure of the wound, as it is little inclined to close prematurely, and they act as a foreign substance - Gun Shot wounds in general demand the employment of Antiphlogistic means, first as other cases attended with equal inflamation - Blood letting is seldom required, for if the patient is reduced below a certain degree his strength is inadequate to support the large and long continued suppuration, which often cannot be avoided - In every case where there is reason to apprehend hemmorhage from some of the large vessels. the patient should be carefully watched, and every thing

provided for its immediate stoppage,
There is another kind of hemmorhage
which is still more dangerous
than the former, occuring particularly
in such Gun Shot wounds as have
long been in a state of copious
suppuration, the blood does not
issue from one individual vessel
but from the whole surface of
the wound as from a sponge, and
is so thin as to resemble blood and
water. it is exceedingly dangerous
for it is apt to exhaust the patient
who is already debilitated, and its
causes are difficult of removal.
The case demands the administration
of Bark and diluted Sulphuric acid,
the decoction of Bark, with a proportion
of Muriatic acid, being applied to
the wound.
Gun Shot wounds in crowded and
unhealthy rooms, and where little
attention is paid to cleanliness &c

are often attacked with Gangrene, which requires the treatment applicable to that disease — The first dressings should not be removed under three or four days from wounds, unless hemmorhage or some other untoward circumstance renders it necessary. and if the dressings have not been kept moistened. it is recommend to apply a poultice to them a few hours previous to their removal in order to lessen the pain and irritation attending it - or sponging with tepid water will generally answer the same purpose - For a few days the matter seldom assumes a healthy appearance. but as soon as the Sloughs seperate. it then becomes of a proper quality. and the wound is to be treated as a simple abscess - Sometimes the healing process does not commence

though suppuration has prevailed a considerable time, and notwithstanding the exhibition of Tonics, and a generous diet, the suppuration ceases to proceed favorably, and the wound becomes unhealthy. The bones show no disposition to unite, and the patient reduced by Hectic symptoms is rapidly approaching dissolution. In this condition life may sometimes be preserved by Amputation. We ought never to be deterred from undertaking the operation by the fever and weakness which frequently soon disappears, when the local cause is removed.

Amputation. On this division alone a volume might almost be penned, and I shall merely give some few outlines, as laid down by various authors, in regard to the immediate or consecutive employment of the knife. Immediate Amputation according to the best authorities, may

be demanded in any of the following
conditions - 1st A limb carried
away by a Cannon ball, or an
explosion, requires the operation without
delay, in order to procure the patient
an even and smooth incision -
2nd When a body propelled by
Gunpowder, strikes the limb in such
a manner, as to smash the bones,
violently contuse, lacerate, and tear
away the soft parts -
3rd If a similar body carries away
the soft parts, and the principal
vessels of the limb, without fracturing
the bones -
4th If a shot strikes the thick part
of a member breaks the bone, divides
and tears the Muscles, and destroys
the large Nerves, without tearing
however the main artery -
5th If a spent Cannon shot or one
reflected, strikes a member obliquely
lacerating the Muscles, Bones tendons

6th When the articular heads are much broken, especially those which form the joints of the foot, or knee, and the Ligaments which strengthen the joints are broken and lacerated.—

7th To the above have been added in former years, Compound fractures of the thigh, from Gun shot wounds. which have been considered in a large majority of cases fatal, but the inventive genius of some of our most brilliant minds, has in some measure at the present day, alleviated the sufferings and lessened the ratio of mortality attending such injuries, and they are now treated in many instances successfully, by the application of the Anterior Wire Splint, invented and as I have seen advantageously used by our Professor of Surgery N. R. Smith M.D. I believe it to be not only useful in Gun shot wounds of the thigh, but in fractures.

resulting from other causes. and
I shall on all occasions (if the
necessity arises) apply it myself.
and earnestly urge all Surgeons
of whatsoever nation, to introduce
and apply it, in their treatment
of Fractures. from whatever cause
they may arise —

Consecutive Amputation } must
be performed. 1st In spreading
Mortification after nature has limited
the disease 2nd Bad state of the
discharge. It often happens notwith-
standing the most skilfull treatment
the discharge becomes of a bad quality,
and the patient is attacked with Hectic
fever, and a colliquative Diarrhoe —
3rd Bad state of the Stump. the
integuments at first retracting, and
then becoming diseased a good way up,
the wound changes into a fungous
ulcer, the cicitrization of which is hindred
by the dupposition of the bone &c —

An
Inaugural Dissertation
on
Typhoid Fever
Respectfully Submitted
To the Examination
of the
Provost Regents and
Faculty of Physic
of the
University of Maryland.
For the Degree
of
Doctor of Medicine
by
Albert Dunlap of Md.

1864

The student, meeting with so many interesting forms of Pathology, whilst perusing his text books and attending the collegiate sessions; finds great difficulty in the selection of one, from the long list, as the subject of an inaugural thesis. Each branch of the profession has a certain claim upon his attention, and with each and every disease he is supposed to be, to a certain extent theoretically familiar; yet he can publish no original thoughts: he can but collect food for his discourse from the writings of others; previously he has only trodden on the paths of theory, receiving certain assertions as they have been delivered to him, and laying them aside for future reference and use; He has had no opportunity for testing the truth or falsity of those oftentimes contradictory

doctrines, his practice alone can instruct him which to receive and which to reject: hence his success will depend, not alone upon his present knowledge but his future study at the bedside of his patient. If he allows old dogmatic theories to blind him, not accepting new truths discovered by others, or forced upon his notice by his own experience, he will, at the termination of his professional career, be no further advanced than when he first departed from his alma mater.

In these pages I have compiled from the best known sources, the material, which I now offer for your consideration, under the title of an Inaugural Dissertation on

Typhoid Fever.

I was advised by an old Physician to choose for my thesis the subject with which I was least acquainted: appreciating the spirit of this advice I have selected a disease which has, more than any other, been a stumbling block to the young Student and has earned among experienced practitioners the title "Opprobria medicorum."

Although the history of the malady can be traced back to the first writers on medicine, yet it is only within the last fifty years that its peculiar symptoms, course and anatomical lesions have been pounded out to the profession. Its appropriate name is still a disputed point and as it can be of no profit to discuss nomenclature I will proceed at once to the more important subject of its Symptoms

The accession of the disease may be so gradual, that the patient cannot tell the day he first commenced to feel unwell; he may notice a feeling of lassitude and weariness with gradual stupor and debility, flushes of heat, headache, coated tongue, anorexia, increased frequency of pulse and tendency to diarrhoea; these disorders lasting a week before the characteristic symptoms of the disease appear. In a few cases the disease may commence suddenly with headache delirium and entire prostration of strength. As the disease progresses the symptoms are increased in intensity; the patient lies on his back in a semi-stupid condition, he complains of pain in the back, limbs and epigastrium, is restless and uneasy troubled with flatulence tympanites vomiting, hemorrhage from bowels

and disorders of urinary organs. Delirium usually commences about the eighth day and the peculiar eruption may be looked for at the same time. The crisis is generally reached about the twentieth day ~~and~~ when the disease terminates in death or the patient commences to improve gradually the first amendment noticed being slight return of strength and appetite. I will now take up the more important symptoms, in the order of their appearance, tracing each one throughout its changes and modifications to the close of the disease. The tongue first becomes coated with a thick white fur. but as the disease progresses it may become either moist & clammy or dry red and fissured. if it presents a red. shining appearance. clearing off at the tip and sides in dry flakes we know that the

bowels are ulcerated and should treat accordingly. As long as the tongue remains moist the prognosis is favorable and a dry, thick, with an accumulation of sordes on teeth and gums red or fissured tongue, denotes great danger The skin is generally hot and dry communicating a pungent sensation to the hand; if collapse takes place it will become cool and moist; as its vitality is much reduced great care should be taken to protect the patient from bed sores. The pulse varies in frequency throughout the disease; seldom, however above one hundred beats per minute except in females and children. A rapid or intermittent pulse is an unfavorable sign The diacrotic condition of pulse is mentioned by some writers and as it portends hemorrhage should warn the medical attendant of the coming danger.

The muscular tissue is always very irritable and when irritated rises up in a hard knot. Chills and rigors are common during the first week but they seldom appear at a later stage unless the disease is complicated with peritonitis. It is usual to date the commencement of the disease from the first chill.

Headache, which is one of the first signs of the disease generally ceases on the appearance of delirium which succeeds the previous semi-stupid condition as this delirium may be active and turbulent the patient should be closely watched as he may by his motions assist perforation of bowels. or extravasation of faecal matter. The recovery from the delirium is usually sudden and entire. but it may in some few cases give place to permanent insanity

Deafness is mentioned as an important diagnostic symptom. It is most usually noticed during the second week, and may be only a slight hardness of hearing caused by the general affection of the nervous system. It is seldom severe and always disappears on recovery from the disease. Epistaxis being peculiar to this disease assists us in forming a diagnosis. It is seldom very profuse and in some cases is entirely absent. The abdomen furnishes us with several characteristics, symptoms which assist us not only in the diagnosis and prognosis but also furnish an important guide to the treatment. The general form of the abdomen is changed it is spread out laterally and slightly convex anteriorly. Percussion over the tracks of the colon

shows the presence of gas which may by pressure be forced from part to part. causing gurgling which is much dwelt upon as a diagnostic sign. Pressure over the illio-cecal value causes pain and even when the patient is in a semi-comatose condition the countenance will indicate his suffering. Diarrhoea may commence with the disease or continue after the action of a purgative: the discharges are yellow and watery, with a peculiar odour, and numbering from two to six in the twenty-four hours. If an artery is perforated by the ulceration blood will be passed with the faeces. hence they should be frequently examined by the medical attendant and the hemorrhage checked if possible

In a few cases the bowels remain costive throughout the disease

The eruptions are usually noticed about the eighth day generally appearing upon the abdomen though sometimes on the back neck and extremities. They usually number from twenty to thirty, are small and circular slightly raised above the surrounding skin disappearing on pressure and returning when the pressure is removed. They continue to break out during several weeks the old ones fading as new ones appear. They desquamate during the third week and do not return unless the patient has a relapse. They are caused by an extravasation of blood under the cuticle. The mucous membrane of the air passages is also found affected, becoming dry and inflamed and causing dry ronchi. But

This symptom is of no danger except in very prolonged cases where the inflammation may extend into the small air tubes causing death by pneumonia or may fill the bronchial tubes with a tenacious secretion which the patient is unable to expel. Perforation of the bowels either into the peritoneal sack or through one of the mesenteric arteries is a common result in this disease. in either case the danger is great but the patient may recover under proper treatment. Great care should be taken that the bowels are moved about as little as possible either by the motions of the patient or the manipulation of the Physician. Other occasional disorders consequent.

upon the disease may appear; as, intercurrent diseases and urinary disorders. But as these are common in all low fevers they need no particular description here.

The Duration of the disease may be estimated at twenty to thirty days though it may be prolonged to the sixtieth day and then terminate fatally. Death seldom takes place before the fourteenth day and recovery rarely commences before the third week.

In speaking of each symptom I have also mentioned its value as a diagnostic and prognostic sign hence I shall have little to add under these two heads. During the first week it is difficult to recognize the disease but when the characteristic symptoms

appear as epistaxis, rose spots, pain in the right cecal region watery diarrhaea. hemorrhage from the bowels and entire prostration of strength. They at once point out the true nature of the complaint. The only disease with which the well informed physician is liable to confound it is a low form of remittent which often takes upon itself a low typhoid character but can never change to true typhoid The prognosis must be in all cases doubtful as any case no matter how slight the symptoms may appear is liable to terminate fatally either by the regular course of the disease or through indiscretion in diet or exercise Certain symptoms may assist us in finding out the present condition of the patient and thus aid us in foretelling its result

Any sign of muscular strength, a strong voice free respiration and slight stupor are looked upon as favorable: while entire muscular prostration loss of voice, dyspnoea and deep coma or violent delirium are accounted unfavorable. Petechiae, hiccough, cold sweats and weak intermitting pulse show approaching dissolution

The Anatomical Lesions may be divided into the characteristic and occasional

The great and peculiar lesion, found in this disease and in no others is inflammation and ulceration of the glands of Peyer. to which the attention of the profession was first called by Gerner and Louis.

These glands situated in the ileum most numerous near the cecal valve, have attracted the attention of many anatomists

who have, as yet, been unable to discover their peculiar offices and use. One theory is that they are absorbents occupying the same position in the lower part of the ileum that the lacteals do in the jejunum. the other most common theory is that they are depurating organs assisting in purifying the Blood from any extraneous or noxious material and casting it into the great waste gate of the System the "primae viae". Both are ingenious explanations but so opposite in character that we are lead to doubt the correctness of either. These glands are always found inflamed and most frequently ulcerated they may soften and give way causing perforation into the peritoneal sack or one of the mesenteric arteries.

This lesion, is most frequently seen at an advanced stage of the disease and seldom occurs in children Inflammation of the mesenteric ganglia most frequently of those corresponding with the diseased glands of Peyer, is another lesion peculiar to this disease. If it could be discovered whether the mesenteric ganglia or the glands of Peyer are first affected it might assist us in fronting out the origines of those glands and by that means the cause of their inflammation

The occasional lesions are inflammation of mucous membrane of pharynx and air passages ulceration of the solitary glands (incorrectly called the glands of Brunner) and inflammation and softening of the Spleen liver and kidneys The brain heart lungs and other vital organs

are usually found inflamed and in lingering cases softened.

The terminations of the disease are death or total or partial recovery. In the Strumous diatheses the germs of that disease previously dormant may be excited into action and the patient though recovering from the exciting cause is liable to some one of the numerous complaints incident to Scrofula as Phthisis, Ozaena Ophthalmia and weak joints. Deafness occurring during the disease may continue through life and as I mentioned before the delirium has in some few cases given place to permanent insanity

The Causes are but little known. It confines itself to no particular social

class age sex or colour: it enters the palace and the hovel, the mansion of the master and the cabin of the slave. it strikes down the patriarch and the infant; man in his strength and woman in her beauty. yet all are not equally liable to its attacks. Certain lines of ~~distinction~~ demarcation may be drawn beyond which the disease seldom passes. the very old and very young are, as a general rule, exempt from the disease that is it is most frequent between the age of fifteen and thirty. It is most frequent in the ill ventilated dwellings of the poor. who debilitated by exposure want of proper food and vitiated atmosphere are peculiarly liable to this or some other low form of fever. Like the exanthematous fevers it protects the patient against a second attack

As the propagation of the disease by contagion is still a matter of dispute among medical savans it will not become me, at the present time, to hazard an opinion. But until the disease shall have been proved, by the most positive testimony, to be entirely destitute of contagious properties, we should act on the principle that it is contagious, and exert our utmost skill to prevent its generation And I consider that a thorough knowledge of the different methods of preventing disease belongs to the science of Medicine equally with the remedies for its cure or alleviation

Treatment. Watson says that the treatment of Typhoid fever has always been a stumbling block to the young practitioner, and as the forms of treatment recomended by different authors are so opposite in many important points. I enter upon the consideration of this part of my subject with doubting footsteps. hoping that the faults of omission and commission will not be criticised too severely.
No regular routine form of treatment can be marked out. different climates, seasons and epidemics require entirely different remedies. and as the disease has changed so remarkably, in its essential nature, during the past few years I shall follow in my short sketch of the treatment the more modern American writers

The treatment resolves itself naturally under two heads; General and Local or. General and Symptomatic. the first extended to the system at large. the second to the various local symptoms as they appear. Bleeding, Cathartics Alteratives Diaphoretics and Diuretics belong to the first class and I will now proceed to speak of each in the order of their mention. In former years general bleeding was considered an important and necessary preparative to other remedies but people and practice have both changed and at the present time venesection is never practiced in this disease except to prevent threatened congestion of the brain or other vital organ Cups and leeches may be useful to relieve

any local congestion or inflammation but their effect on the general system should be closely watched. A mild aperient should be given at the commencement of the attack especially if the bowels are costive but the young physician must remember that the tendency of the disease is to diarrhoea and that therefore cathartics must be used with great caution. The Castor oil mixture is an eligible formula. or a small dose of magnesia may be given; either one will generally act freely and a repetition of the dose is seldom required During the first stage of the disease especially if the symptoms are indistinctly marked Diaphoretics and diuretics will be found useful and agreeable to the patient

The neutral mixture effervescing draughts alkaline solution and Sol of lemon juice are all valuable remedies at this period. Cold Sponging is also a useful auxiliary of the diaphoretics mentioned by subduing the fever and rendering the patient more comfortable but if not pleasing to the patient himself they should be at once discontinued. The use of mercury is still a mooted point but the salutary changes I have myself seen follow its administration while attending my ward in the infirmary) have led me to conclude that if properly given and its poisonous effects guarded against it is a powerful and valuable instrument in promoting the secretions both of the skin and mucous membrane. The indications for its use are hot dry skin

dry tongue scanty urine with pain in the abdomen and delirium. the formula recomended by our late Professor of Practice was Rx. Mass. Hydrarg. Gr viij Creta Prep. ℈ij. Pulv Ipecac et opii Gr viij - Pulv Cinnamomi Gr iv. ℞ Pulv. No viij one every four hours until the gums are touched or the symptoms relieved. I have omitted to mention the use of emetics which are often useful during the first three days of the disease. by unloading the stomach of its indigestible food and preparing the way for other remedies Opiates may be used in cases of restlessness with loss of sleep but they should be given with great caution and their effects closely watched as the stupor and coma they produce may be charged to the disease rather than to the remedy

As local symptoms arise They must be met by their appropriate remedies. For profuse diarrhoea use vegetable astringents and opium. for hemorrhage from the bowels give acetate of lead combened with opium or catechu. if the pain in the abdomen is severe apply leaches and follow with a large chin poultice; leeches may be needed to relieve headache and when the delirium is violent and prolonged the head must be shaved and cold waters or ice applied to the scalp. where the symptoms indicate inflammation of the brain use blisters to the scalp and the usual remedies for Encephalitis.

When the tongue assumes that peculiar condition (mentioned under Symptoms)

which denotes inflammation and ulceration of the glands of Peyer we must at once resort to oil of turpentine which may be given in doses of ten drops every two hours in emulsion. This will often have an almost magical effect healing the ulcerated surface and promoting rapid recovery. If peritonitis supervene with or without perforation we must depend on opium to restrain the peristaltic action of the bowels it may be contraindicated by other symptoms but as it is the only remedy which offers the least chance of safety it should be used freely; in some few cases leeches may be applied with advantage. In cases of extreme prostration and collapse we must resort to stimulants as

wine whey, beef tea, brandy or carbonate of ammoniae; or Quinine may be used in small doses frequently repeated. as a grain every hour. The urine may be and in severe cases is always retained requiring the use of the catheter: this should be particularly remembered as the patient is entirely unconscious of his condition and the attendants may consider the dribbling caused by the distended bladder as a free discharge. As the disease is lengthening and the vitality of the skin much reduced the patient should be protected from bed-sores by rubbing exposed parts with stimulating lotions or applying adhesive plasters. During Convalescence the patient must be closely watched as the slightest exposure to the inclemencies of the weather or indiscretion

on diet may bring back the disease. His food should be of the mildest and least stimulating kind gradually increasing in strength and quantity until perfect recovery. and no patient can be considered well until the tongue is clean and healthy the bowels regular and the abdomen free from pain